Antiquity

A Quarterly Review of Archæology

Edited by O. G. S. Crawford, F.S.A.

SEPTEMBER 1933

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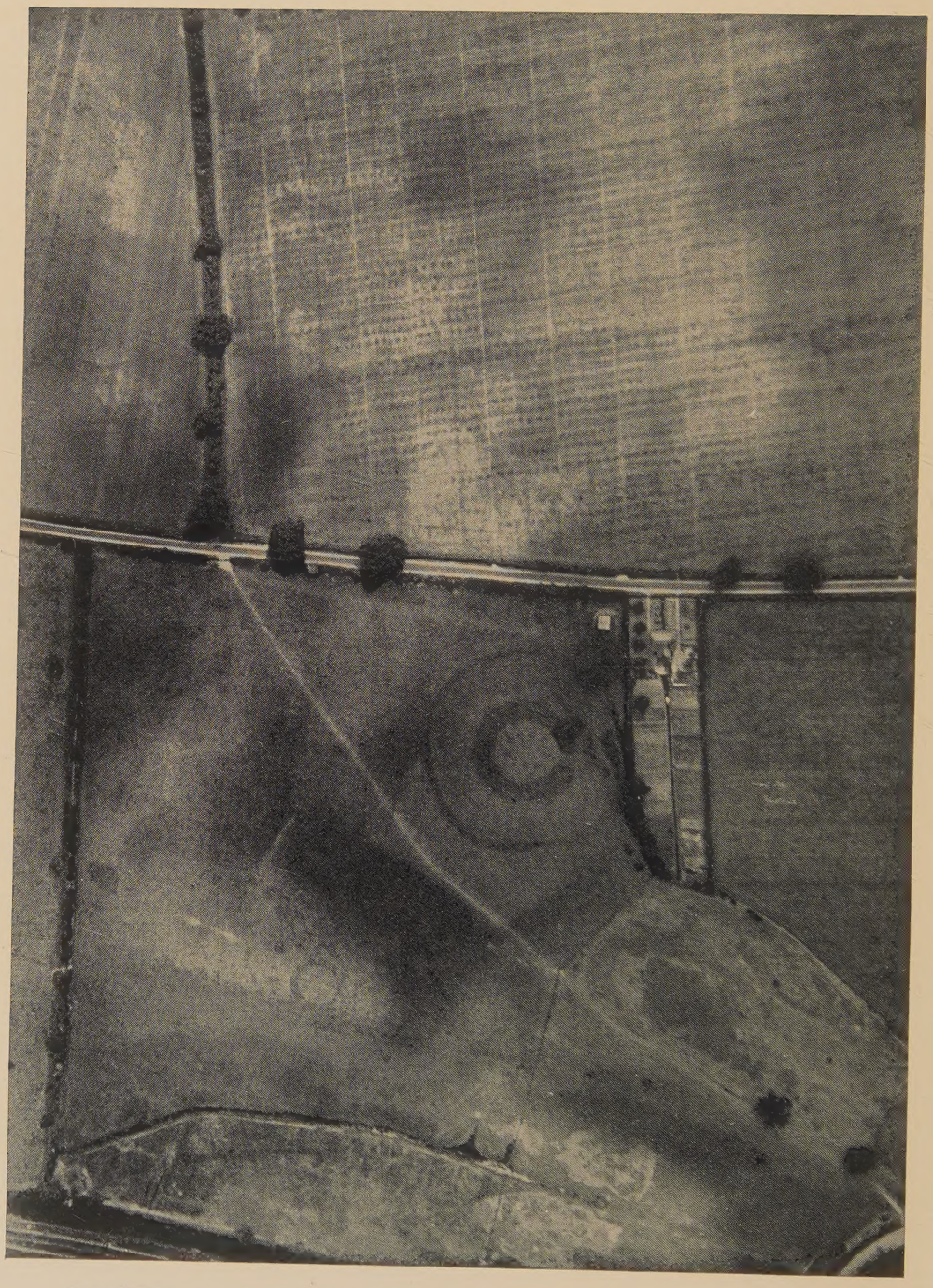

PREHISTORIC CIRCLES AND WOODEN POST-HOLES NEAR NORWICH, DISCOVERED FROM THE AIR, 18 JUNE 1929

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facing p. 257

Antiquity

A Quarterly Review of Archaeology

VOL. VII NO. 27 SEPTEMBER 1933

Editorial Notes

OUR readers will remember that one of Wing Commander Insall's most important discoveries was a second Woodhenge, just outside the city of Norwich. We published his air-photograph of it at the time (ANTIQUITY, 1929, III, 257) and we were not without hope that those residents in Norfolk who profess an interest in archaeology might do something about it. The site would not have required much money or labour to excavate; it is so placed that sooner or later it was likely to be threatened by building operations. It therefore came within the scope of sites recommended for excavation by the Research Committee of the Congress of Archaeological Societies (see the Committee's first report, p. 1). The Roman town of Caistor did not, as was pointed out in our same volume (pp. 186–7). The site was not threatened; nor was it likely to yield an adequate return for the money to be expended upon its excavation. Nevertheless a large sum was raised and excavations have been carried out there for several seasons. As a matter of interest the photograph referred to above is now reprinted.

It is now too late to excavate the Norwich Woodhenge in the way it should be excavated, for in 1931 a pylon for a power-line was planted upon it. We are not amongst those who cry 'sacrilege' at the first

suggestion of touching sacred sites and graves, though if conducting excavations we should always respect their feelings in such matters. We prefer to emphasize the loss of a great opportunity—the excavation and preservation of a unique monument, unexpectedly presented to us by air-observation and photography. It is all the more to be regretted because the Norwich Woodhenge lay just outside a large town, and therefore was easily to be seen by large numbers of people. Further comment is unnecessary; the facts speak for themselves.

Nevertheless we would not wish to leave this subject without a few general remarks. The Earthworks Committee of the Congress, which did such good work before the War, and which laid the foundations of much modern field-archaeology, used to classify the items in its annual reports under the headings of Preservation and Record, Destruction, Exploration. From this it was a legitimate inference that the work of county archaeological societies should be primarily concerned with these three aspects of their local antiquities— to ' explore ' them, to add new ones to the map and describe them, and to preserve existing ones from harm. It may be thought that the creation of a special Government Department to schedule and preserve antiquities has relieved provincial societies of some of their responsibilities; but it has not done so. The Ancient Monuments Branch of the Office of Works is dependent upon local information, and cannot be expected to be aware of threatened interference with sites unless it is informed by those on the spot. The responsibility still lies with interested residents to report such threats to the proper quarter if they cannot avert the danger themselves. There seems no reason to doubt that in the present instance timely action would easily have averted the disaster. A very small deviation in the line of pylons would have been sufficient.

We came across the following passage recently in a book we were reading :—

> ' No copies of the *Zeitschrift für Rassenphysiologie*, which deals largely with the questions [of blood-tests of race] discussed, are to be found in London, the capital of the Empire containing

the greatest diversity of races. One copy passes through a London bookseller to Australia'. [Essay on 'Prehistory in the Light of Genetics' in a book entitled *The Inequality of Man*, by J. B. S. Haldane, F.R.S. (Chatto and Windus, 1932, p. 69)].

If one may judge from their bulletins, the Trustees of the British Museum still concentrate upon the acquisition of breviaries, books of hours, rare editions, and other curios. We would suggest that there is a section of the public which would welcome a change of policy, and the purchase of such foreign journals as the *Zeitschrift* mentioned above in preference, if need be, to specimens with a 'rarity interest' only.

This attitude towards foreign scientific journals makes research work unnecessarily difficult, and it is difficult enough in any case. It also hampers the diffusion as well as the advancement of knowledge. For instance we asked the author of the book referred to above for an article describing in non-technical language the use of blood-tests in classifying the races of humanity. The article was well in hand, but some essential facts were contained in the *Zeitschrift* mentioned. This was not obtainable in England, and the article had to be abandoned. The public must therefore remain in ignorance, so far as ANTIQUITY is concerned, of one of the most far-reaching discoveries of modern times.

But it is not only in foreign periodicals that our National Libraries are deficient; they do not even possess complete sets of the Transactions of the British learned societies. The excuse given is that some of these, not being published in the legal sense but privately printed, do not come within the Copyright Act and do not therefore find their way automatically to these Libraries. When it is suggested that they may be purchased by a small outlay, one receives the evasive reply that the Librarian cannot be expected even to be aware of the existence of many local societies. This answer ignores the fact that each year there is published a Year-Book of Scientific and Learned Societies (Charles Griffin and Co.) with the names and addresses of officials and details of publications issued. It would not have been

difficult to check this with the catalogue once a year, and make up sets of Transactions. The foregoing generalities are based upon actual experiences in a library receiving books under the Copyright Act; our first experience occurred about a quarter of a century ago and the last during the present year, in the same library—which is not in London.

It should be pointed out, for the benefit of librarians, that the Transactions of local societies contain essential facts—raw materials—for any one who is doing research work of an archaeological, historical or topographical nature. Much of their contents may be second-rate, or valueless; so are the contents of most of the newspapers received. But nearly every issue records discoveries which are nowhere else described. Taken singly such records may appear commonplace and of no special importance; but English prehistory is largely built with bricks of this kind—the map of Roman Britain (and its forthcoming successor) almost entirely. And how much the work of a great pioneer like Professor Haverfield was based upon casual records in local Transactions may be seen from the references attached to his articles in the volumes of the Victoria County History. 'Common things', said General Pitt-Rivers, 'are of more importance than particular things, because they are more prevalent'. By 'particular things' the General no doubt meant 'rarities', such as appeal to the collector.

Remarkable Discoveries in the Athenian Agora

by Theodore Leslie Shear

THE second campaign of excavations in the Athenian Agora, which was begun in January 1932, has produced important results in many fields of art and archaeology. The work is conducted by the American School of Classical Studies at Athens and it enjoys the cooperation of the Greek Archaeological Society through the presence on the staff of Professor A. D. Keramopoullos of the University of Athens. During the present season an area of about one and one-half acres, which had been occupied by twenty modern houses, has been cleared by the removal of 10,000 tons of earth.

The topographical evidence which has been secured warrants the definite identification of several historical buildings. The foundations in the northernmost sector of the excavations, just under the hill of the ' Theseum ', were tentatively identified last season as belonging to the Royal Stoa, the headquarters of the Archon Basileus, the chief magistrate of the city. This identification has been confirmed by the current investigations, and a building opening from the Stoa on the west has been uncovered.

In the next area of excavation to the south, the entire front of the Stoa of Zeus Eleutherius, where Diogenes the Cynic used to lounge, is now visible on the west side of the street of the Agora, and on the east side is a marble altar which is probably to be identified as the altar of the Twelve Gods. (Plate 1). As the sites of these buildings conform admirably to the descriptive account of them recorded by Pausanias, the areas for the future progress of the excavations are clearly indicated, following the route of the street to the north and to the south.

The Sculptures

The rich discoveries in the field of sculpture include an archaic head of the bearded Hermes dating from the 6th century B.C., and

another bearded Hermes of the second quarter of the 5th century. There are also other marble heads of the Greek and of the Roman style, a marble herm which is surmounted by the head of a youthful Hermes, and a bronze statuette of Athena Archegetis who is holding an owl in her hand. In addition to these pieces of relatively minor importance four works in this field are conspicuous for their beauty and for their artistic and archaeological interest.

A marble figure of a young woman clad in thin transparent drapery, which clings so closely to the body that the contours of the graceful form are revealed, is a masterpiece of the early part of the 4th century B.C. (Plate II). The back of the statue is not carefully finished and this fact, together with the pose of the figure, indicates the probability that it originally formed part of a pedimental sculptural group. As it was found just east of the base of the hill of the ' Theseum ' it is tempting to try to associate the sculpture with that temple. But the style of the work is late for the ' Theseum ' and the statue, like a similar one in Burlington House, London, belongs rather to the school of Timotheus, and is stylistically related to the Amazons of Epidaurus and to the Nereids from Xanthus.

A bronze head of a woman, which was found in a well, is in a state of almost perfect preservation. (Plate III). The effect of the bronze was heightened by narrow strips of silver inlaid in grooves along the edges of the hair and in a vertical band on each side of the neck. At the back of the neck there are also three narrow vertical inlays of a darker metal than the bronze. Silver earrings were set in the lobes of the ears and the eyes, which are missing, were also inlaid. The hair, which is arranged in delicately cut, wavy locks, is brushed up to the crown where it terminates in a small projecting knob. The lower part of the piece with the pointed bronze projection has finished edges which are unbroken. The head was, therefore, evidently set into the neck-socket of a statue, and the knob on top may have served as a support for an additional piece of the headdress. The style of the features exhibits a repose and a severity of expression which are usually associated with products of the 5th century. All the objects in the well date prior to the early part of the 3rd century, when the well was filled up and covered by foundation blocks of the building west of the Royal Stoa. Consequently the head was thrown away at that time, but its style proves that it was made many years earlier. Original bronze sculpture of the classical age is rare and this is an artistic masterpiece of its period.

A marble statue of the Emperor Hadrian, which had been discovered in a water-channel near the close of the campaign of 1931, was successfully extricated during the present season. (Plate IV). Although the head has not been found, the statue can with certainty be identified as Hadrian from the symbolical insignia on the breastplate, which occur on several similarly garbed Hadrianic figures. The goddess Athena with shield and spear in the centre, flanked by owl and serpent, is the emblem of the city of Athens, just as the wolf suckling the twins is the symbol of Rome. The combination of these motives on the statue honours Hadrian as benefactor of Athens and Emperor of Rome. Winged Victories appear in the main group approaching Athena with wreaths to crown her, while the suspended lappets of the corselet are decorated with the head of Zeus Ammon, with the imperial eagles, with heads of Apollo and with elephants' heads. The workmanship of the figures is better than that on most imperial statues and the work undoubtedly dates from the time of Hadrian.

Probably a product of the same period is a marble statue of a Faun which exhibits characteristics very unusual in classical sculpture. (Plates V–VI). The Faun was a merry, mischievous creature of the woods with horns, pointed ears, a tail and goats' legs. In this figure, however, the animal characteristics are minimized and emphasis is laid on the human element. The horns and tail are very small and the figure has human legs and feet, but a goat's skin has been thrown about the body of the boy and a goat has a place in the scene by his side.

The statue represents a jolly boy who is standing on a bit of rocky ground. With his left hand he grasps the horn of a goat while he holds in the right a syrinx or Pan's pipe. He has a pleased expression on his face, as if he had just finished a tune which he had greatly enjoyed.

The shape of the head is especially noticeable because the bony structure of the human brow has been modified so that the short horns would seem to grow naturally out of the forehead. The teeth have been neatly carved in the grinning mouth, and deep dimples are indicated on each side. The humanity and modernity of the irregular nose and of the half-open mouth with its visible teeth almost belie the evidence of the pointed ears which characterize this care-free creature of the hills and woods. The result is a head of extremely modern appearance for which it would be difficult to find a counterpart in all the range of classical sculpture.

The statue was found in a well which had been filled with débris in the beginning of the 4th century A.D., as we know from the lamps,

coins and terra-cottas which were in it. Therefore the statue, which had been broken into 73 pieces, was thrown away at that time, but its style and the finish of the marble suggest that it was made in the 2nd century A.D. It was probably smashed by the Christians, who would have objected to this soulless pagan youth.

The Pottery

The discoveries of the season in the field of pottery are very numerous and cover a wide range of date, thus giving a survey of the development of the ceramic art in Athens over a period of many centuries.

A large collection of Hellenistic pottery of the 4th and 3rd centuries B.C. was secured from wells where it was associated with other objects by which the ware can be approximately dated. As little exact information in regard to this type of pottery has previously been available, this discovery will make possible a new evaluation of the material. A typical specimen of the class is an amphora decorated with square motives on the shoulder. The designs are applied in buff and white on the black ground. Moulded heads or masks are often used as accessory decorations at the base of the amphora handles or as medallion-designs in the centre of saucers. Although the decorations are often sketchily drawn, the effect of the whole piece is striking because of the contrast between the black ground and the chalky white elements of the pattern.

The presence of many terra-cotta figurines and of the moulds from which they were made proves that this industry was diligently pursued in the Athenian market-place. One piece of unique character is a plaque, measuring $9\frac{1}{2}$ by 5 inches, with the figure of a snake-goddess. (Plate VII). The head is in relief but the heavily draped body is painted in red, blue and yellow. The woman is a wild-looking creature with red hair and long curls, and with her arms held aloft with palms open and with fingers extended. On either side of her a serpent is painted in vertical position, the one red and the other blue. The plaque was found on the north slope of the Areopagus, on the northeast side of which a shrine of the Eumenides was located in a cleft of the rocks. The appearance of the figure and the presence of the snakes argue for the identification of the woman as one of the Furies. The deep red colour of the cloak is a confirmatory item of evidence, because Aeschylus refers to the Eumenides as ' wanderers accepted with their robes of

crimson dye'. The place of discovery makes it probable that the plaque was actually dedicated in their sanctuary on the Areopagus.

The period of the bloom of Greek art in the 5th century B.C. is represented by two beautiful terra-cottas. One is a statuette of a seated goddess which closely resembles the figures of Demeter and Persephone from the east pediment of the Parthenon. It exhibits the characteristics of the style of Pheidias and was probably made after a statue by that sculptor. The second terra-cotta is a plaque with a representation in low-relief of a combat between two youths. This is a trial cast made in terra-cotta from a mould which, if found satisfactory, would be ultimately used for a cast in metal. The figures are again reminiscent of those on the frieze of the Parthenon. Besides these masterpieces of the coroplast's art the host of figurines of many types and of various periods attests the interest of the Athenians in this branch of the minor arts.

Lamps and Coins

The collection of Greek and Roman lamps from the excavations has been enriched during the season by the addition of some 300 specimens which represent many different types and periods. They range in date from the 7th century B.C. to the 4th century A.D. and illustrate graphically the development of the lamp-making industry in Athens from the earliest to the latest times.

The silver and bronze coins number 4700 for the year which, added to the 4350 pieces found in 1931, make a total of over 9000 for the two campaigns in the Agora. Most of the coins are made of bronze but there are also representative silver pieces of Athens, some of which are as fresh and sharp and new in appearance as when they were struck. Although the bronze coins are generally of little intrinsic value they often furnish important data for determining the approximate age of the deposits in which they are lying and, therefore, great care is always exercised in the excavations to the end that none of these potentially precious records may be lost.

The daily life of the ancient Athenians was much concerned with phases of law and of religion. The latter sphere is represented among the discoveries by a beautifully carved Gnostic gem in green jasper. The Gnostics were a powerful religious sect of the 2nd century A.D., who cultivated magic and mysticism, and whose religion included Greek, Egyptian and Semitic elements. Their gems were talismanic and were decorated with fantastic images, with the names of strange

deities and with cryptic formulae. The new specimen belongs to the type called Abrasax and that name is written on its edge. The numerical value of the letters of this name is 365, the number of days of the year. The abrasax image, which appears on the face of the stone, is a strange creature with the head of a cock and with serpents instead of legs. In the field are five stars. The letters below the figure are incomprehensible, as is often the case on these stones. The back of the gem has the figure of Harpocrates or Horus seated on a lotus, the symbol of the vernal sun. The letters about this figure, except for two series of vowels, are also incomprehensible, but the names written about the stone on its edge are perfectly clear. In addition to the vowel series they are Abrasax, Iao, Sabaoth, Adonais. Many works have been written in research and elucidation of these curious gems with their weird figures and their magic phrases. They represent an extraordinary mixture of Christian motives, of Hebrew theology, of Egyptian iconography, and of pagan superstition. The new discovery is a particularly fine example of its type.

Another important phase of Athenian life is illustrated by relics of the operation of their judicial processes. All citizens eligible for jury duty received a bronze ticket of identification which bore the name of the owner, the section in which he was to serve and the official seals of the city, the owl and the Gorgon's head. When acting at a trial each juror was given two bronze ballots, which were discs made either with solid or hollow hubs. The disc with the solid hub was used in voting for acquittal, the other for conviction. When summoned to vote the juryman advanced with the hub held between his thumb and forefinger, so as to ensure secrecy, and cast the ballot into a bronze urn. The discarded disc he placed in a clay vessel. The majority of the votes in the bronze urn decided the cast. The new examples date from the 4th century B.C. and are contemporaneous with the description of the procedure given by Aristotle in his Constitution of Athens.

A notorious development in Athenian jurisprudence in the 5th century B.C. was the practice of ostracism, by which the citizens could condemn to exile for ten years an over-powerful leader by scratching his name on a piece of pottery, called *ostrakon*. (Plate VIII). The first politician against whom this law was invoked was Hipparchos, who was ostracized in January 487 B.C. One of the votes against Hipparchos is included in a deposit of twelve *ostraka* found in the excavations. The other names recovered are Megakles, Hippokrates, Aristeides and Themistokles. The two latter were the most distinguished statesmen

who were thus condemned. The stories about the ostracism of Aristeides the Just are familiar, but it makes history very vivid to find the actual votes used on the occasion in January 483 B.C.

This brief account of the results of the past campaign shows that the excavation of the Agora in its initial stages has already produced objects of art of wide variety and of the highest excellence. It has increased our knowledge of the history and the culture of the people, and has supplemented and confirmed historical and literary records. Discoveries of such variety and importance could be made only among the remains of a great and rich city where for centuries civilization flourished at its highest point.

The Distribution of Gaulish and British Coins in Britain

by George C. Brooke

Deputy Keeper of Coins and Medals, British Museum

THE origin of the British coinage has in recent years broken loose from the tradition of an early 2nd century date. Its date is necessarily dependent upon the dating of the Gaulish coinage from which it is derived ; the link with Gaul has militated against the simpler view of the British coinage which would result from bringing the earliest issues into closer relation with those that bear names of princes known to history. The coinage of Gaul has lost perspective by the attempt to make it span the wide gap between Philip II of Macedon and the Roman conquest ; a very slow development of type has been assumed, and devious trade routes have been created to bring the gold stater from Macedon into Gaul.

All surveys of the Gaulish coinage have overlooked the cardinal point that in the 2nd century B.C. the staters of Philip became the gold currency of Rome. It was from Rome, not from Macedon, that the stater found its way into Gaul. In the early years of the 2nd century the spoils from the Macedonian and Syrian wars included enormous quantities of the so-called Philippi. Livy tells us that after the victory of Magnesia as many as 140,000 of these gold coins were carried in the triumph of Scipio Asiaticus in 188 B.C. If we may interpret *signatum aurum* in the same sense, and it is difficult to do otherwise, no less than 693,000 staters figured among the spoils in the triumph of Aemilius Paullus after the battle of Pydna in 167 B.C. Thus, during the first half of the 2nd century B.C. Rome was deluged with gold staters of Macedon brought as the spoils of war, to which may probably be added part at least of the tribute payments and many from other sources. There can be little doubt that Rome used them in currency to supplement the silver coinage of the Roman mint.

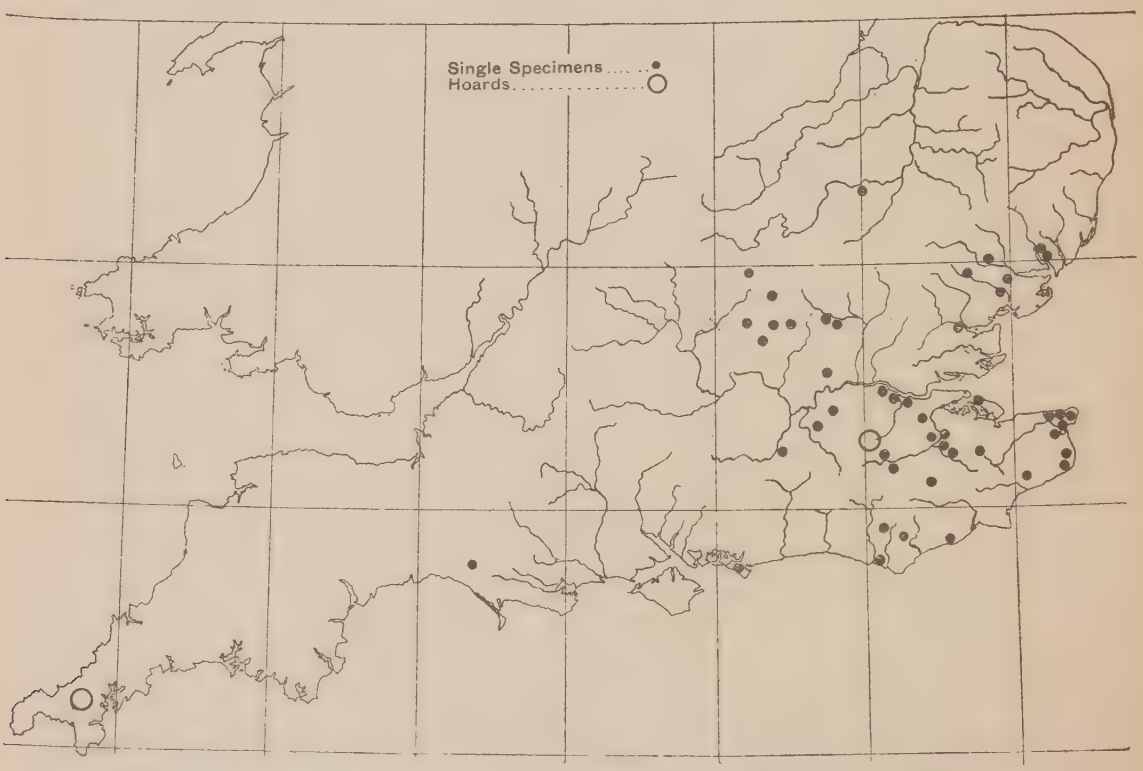
Thus, the gold staters of Gaul took their model from the gold staters which were, in the middle of the 2nd century, the Roman, and, we may add, an international, currency. But it was not the course of trade through Marseilles, as might be expected, that was the connecting link ; had that been so, the closest Gaulish copies of the stater would be found in the neighbourhood of Marseilles. It is the more central tribes of Gaul, the Aedui, Arverni, and Lemovices, that were the earliest imitators, showing that it was the direct intercourse between these tribes and Rome, which resulted from the victory of Ahenobarbus over the Arverni in 121 B.C., that introduced the stater into Gaul. It was towards the end of the 2nd century B.C., therefore, that the stater was imitated by Gallic tribes to create a native Gaulish currency.

This has an important bearing on the British coinage, for it gives a date very near the end of the 1st century B.C. as the earliest limit for the coinages of northern, *i.e.* Belgic, Gaul, which circulated in Britain and in their turn inspired a native currency here. While in recent years it has become more and more obvious that the British coinage must have had its beginning in the 1st century B.C., the history of its development has become more obscure by the widening of the gap between the British coinage and its parent coinage of Gaul. It is now evident that the gap does not exist, and it is possible, without misgiving, to bring the coinage into line with other archaeological evidence, which proves two Belgic invasions to have taken place in, approximately, the years 75 and 50 B.C.[1]

The first Gaulish coinage which found currency in Britain is that which is attributed to the tribe of the Bellovaci, a Belgic tribe situate north of Paris with Beauvais as its capital (plate 1, 1). The weight of this gold stater is usually about 115 grains, but some specimens weigh as high as 120 grains ; the corresponding quarter-stater is also sometimes found in England. In this country its distribution, which is shown on MAP 1, extends along the coasts of Essex, Kent, and East Sussex, and proceeds by the Thames and its tributaries into Kent and Surrey, and through Hertfordshire to the border of Bedfordshire and Buckinghamshire. The hoards, at Westerham in Kent, at Carn Brea in Cornwall, and (not marked on the map) somewhere in Essex, contained only very few specimens of this coinage among later issues. In addition to the sites marked, two coins have been found somewhere in Kent and one in Essex.

[1] See Hawkes and Dunning, *The Belgae of Gaul and Britain*, in *Arch. Journ.* 1930, LXXXVII, 150ff.

The map bears a very close resemblance to that on which Mr Hawkes marked the find-spots of the pedestal-urns which are characteristic of the first Belgic invasion.[2] But the Bellovacian coins played no part in the development of the British coinage ; they did not inspire the Briton to imitate them nor did they have any direct influence on the types of the British coins. The find-spots should therefore be



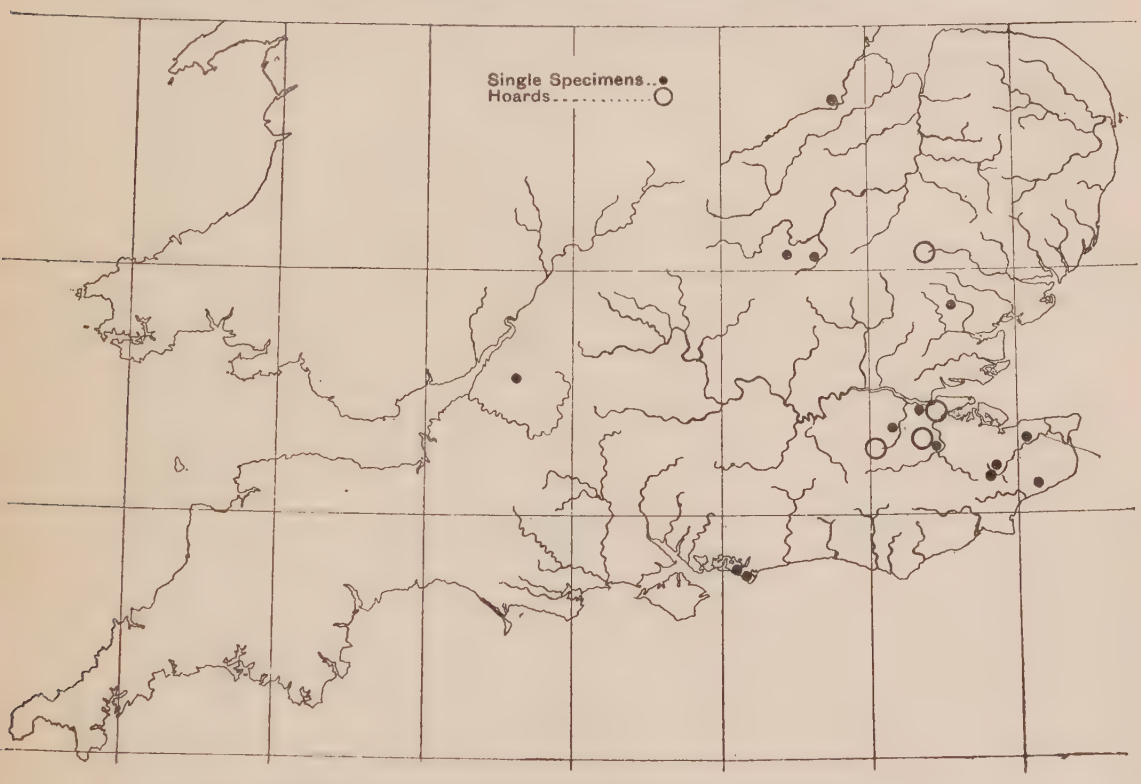
Map I. DISTRIBUTION IN BRITAIN OF THE COINAGE OF THE BELLOVACI (Gaulish)

regarded as marking the course of trade and not the settlements of foreign invaders ; trade not unnaturally took the same routes as were later followed by the first Belgic settlers.

The coins of the Gaulish Atrebates, if they are correctly attributed to that tribe, were the true parent of the British coinage (cf. on plate I, no. 2 Gaulish Atrebatic, with nos. 3 and 4 British). Curiously enough,

[2] *op. cit.* p. 189.

they are not frequently found in England, and consequently the find-spots (MAP II : one found in Yorkshire, near Pontefract, is not marked) are too scattered to afford much information. Their comparative rarity may be due to a temporary break in trade with Gaul during the periods of settlement and to the speedy introduction of a native coinage by settlers who had been used to coinage in their own country. The

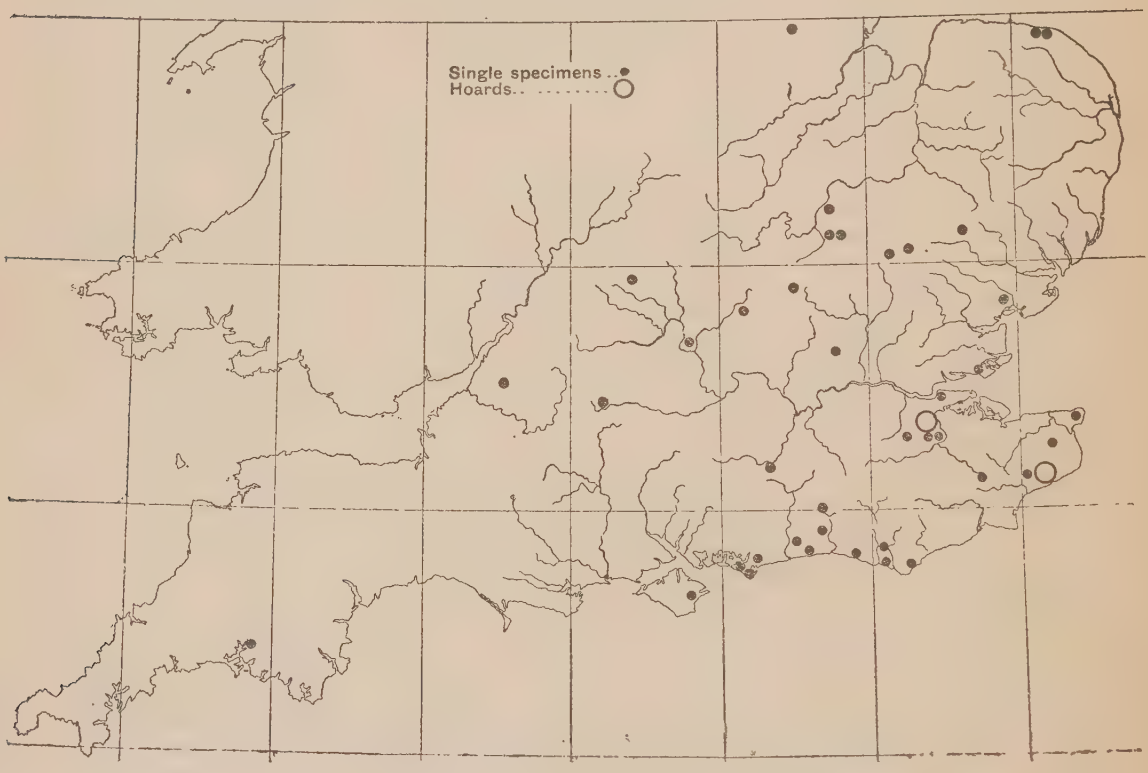


MAP II. DISTRIBUTION IN BRITAIN OF THE COINAGE OF THE ATREBATES (Gaulish)

development from them of the true British type is unmistakable ; the obverse design, which is a meaningless stylism of the head, is almost identical on the two coins, but the reverse of the British coin turns the disjointed Gaulish horse into a formless assemblage of precisely similar curves and lines ; as one might expect, copying was unintelligent but careful. During the currency of this Gaulish type were buried the earliest hoards that have yet been unearthed in England ; a hollow

flint, found in 1912 at Rochester, contained eleven specimens; at Haverhill in Essex, *c.* 1820, were found some fifty of them; in hoards from Ryarsh, from Westerham, and from somewhere in Essex single specimens of this type were found with later coins.

This may, I think, be accepted as the coinage of the first Belgic invaders, and its currency in Britain must therefore, on the evidence of other archaeological data, be placed after 75 B.C.

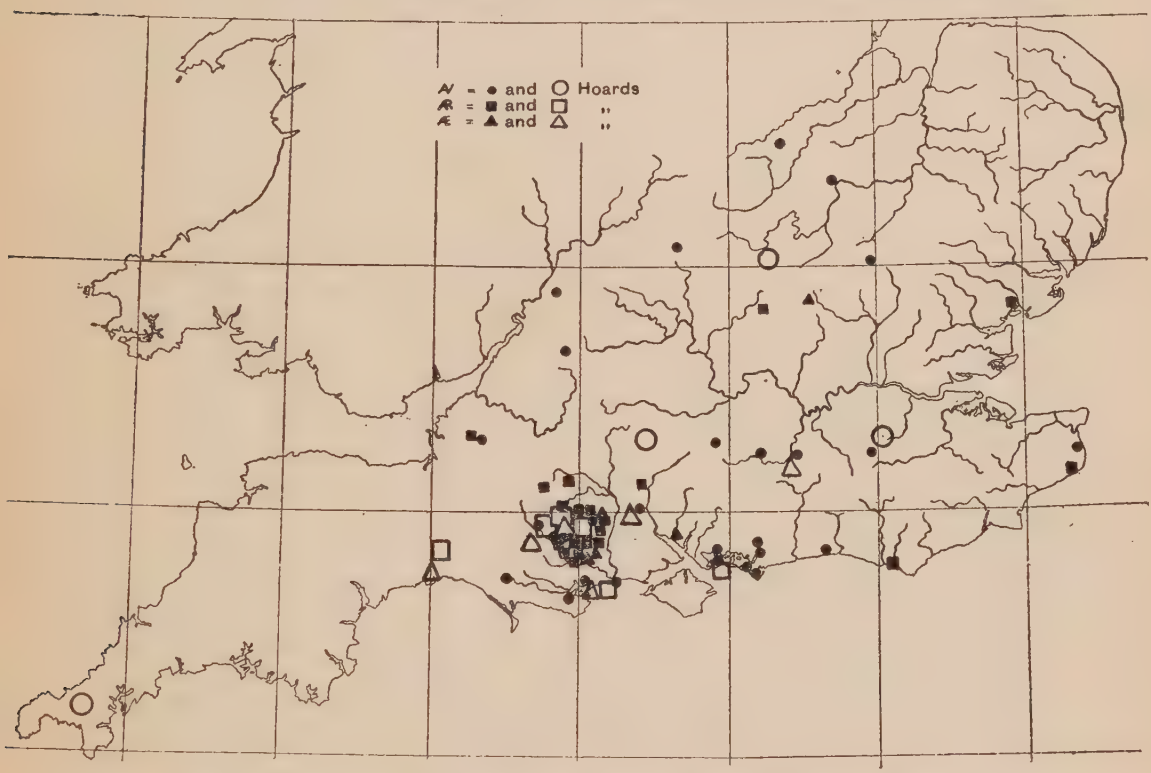


MAP III. DISTRIBUTION IN BRITAIN OF THE COINAGE ATTRIBUTED TO THE MORINI (Gaulish)

It was quickly followed in Gaul and in Britain by another type which differs only in the absence of any obverse design, the new Gaulish coin having a plain convex obverse. This has been attributed to the Morini, a backward coastal people who were unlikely to have had a coinage at this time; it is doubtless a slightly later development of the coinage of the Atrebates. The spread of this coinage in Britain may be seen on MAP III; but perhaps a truer picture of the circulation in

England of Atrebatic coins would be obtained by placing the find-spots of MAPS II and III on one map, which would show for the two types of the Gaulish Atrebates a distribution very similar to that of the coins of the Bellovaci, but spreading further into the uplands north of the Thames and more extensive on the Sussex coast.

The weight of the stater had already come down to 100 grains or even, in the series with plain obverse, slightly below that figure. The



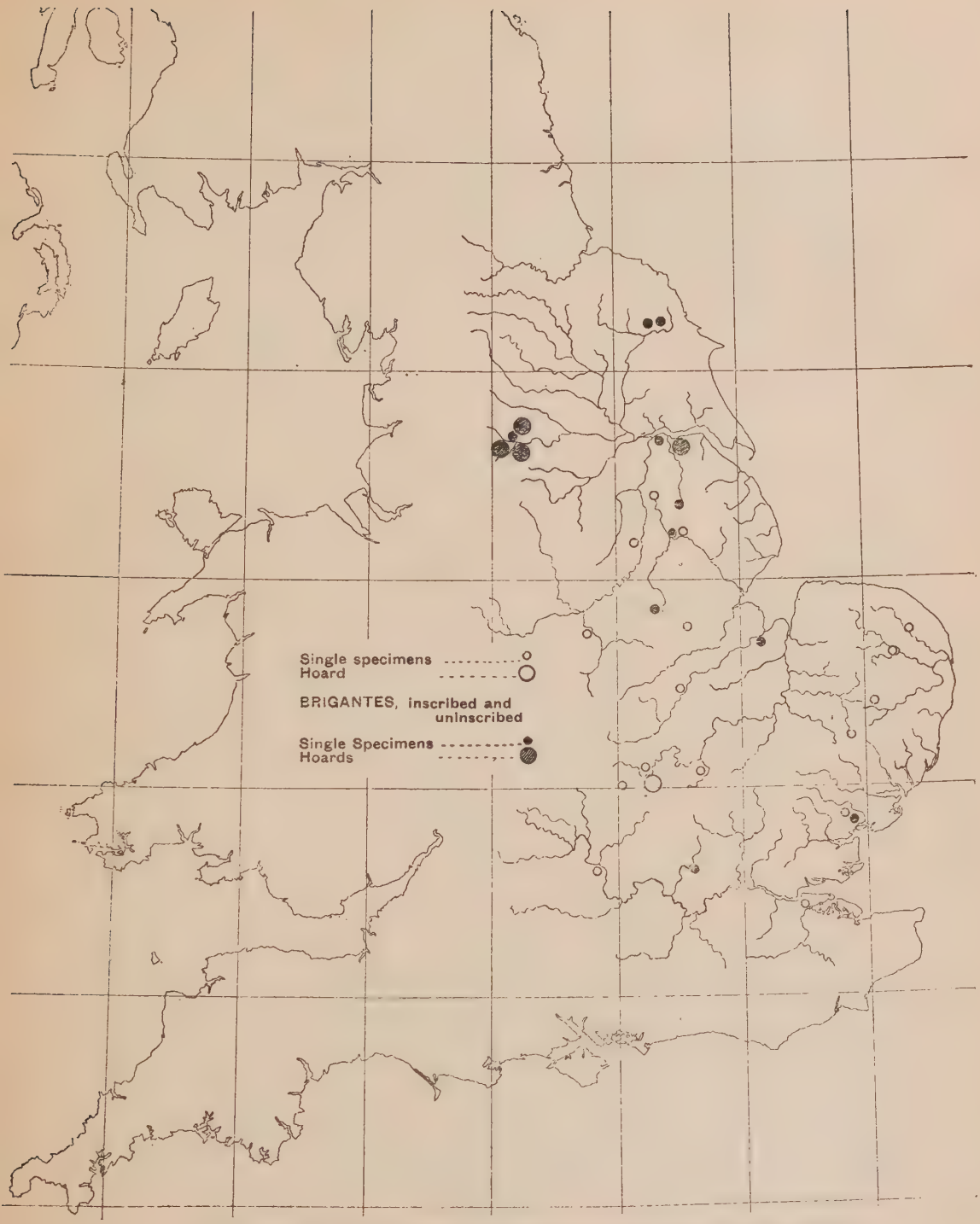
MAP IV. DISTRIBUTION OF THE BRITISH ATREBATIC COINAGE (First Belgic Invasion)

greater frequency in Britain of the later of the two Atrebatic types may perhaps illustrate the revival of trade with Belgic Gaul as the settlers became established. The coinage of Britain modelled itself on the earlier type, and having adopted its obverse design did not abandon it under the influence of the later Gaulish type with a plain obverse ; a more striking instance of this conservatism will be seen later when a new British coinage adopts another Gaulish reverse design but retains

the original British obverse. It is noteworthy that the circulation of Gaulish coins in Britain is not balanced by a similar circulation of British coins in Gaul.

The Gaulish coinage of the Atrebates, having penetrated by the Thames waterways into the higher country both north and south of the Thames, was imitated by the British settlers of the first Belgic invasion. The native coinage thus formed (plate I, 3, 4 ; and MAP IV) seems to have had a similar but wider circulation ; northward it spread through Hertfordshire and Buckinghamshire into Northamptonshire, westward into Oxfordshire and even occasionally to the Severn valley ; south of the Thames it lies along the north side of the Surrey hills. There is also a distinct group on the West Sussex and Hampshire coast. But the type had a long life, in the course of which it was debased into a silver and a copper currency, and in these metals, in the Wiltshire and Dorset district at least, it continued down to the second half of the 1st century A.D. For this reason it is difficult to read on the map of find-spots its early distribution in the 1st century B.C. ; the very dense mass of silver and copper coins found in the Cranborne Chase region and at Hengistbury Head point to a Belgic settlement too conservative in their coinage to admit any outside influence. The Westerham (Kent) find was composed almost entirely of the gold coins of this type ; at Carn Brea, Whaddon Chase, and Hengistbury they were in very small numbers. The Chute (Wiltshire) find of 65 similar coins in a hollow flint was of a late variety somewhat lower both in weight (93 to 95 grains against 96 to 100 grains of earlier specimens) and in specific gravity (11.4 to 12.4, against 13.5 to 14.5). This variety, distinguished by the ' crab ' below the horse, seems to be a connecting link between the gold and silver coins indicating a late date and a south-westerly direction for the debasement ; the only coin of the group recorded in the Whaddon Chase hoard is also of the late type. The silver and copper coins are only rarely found outside the Wilts–Dorset–Hants region.

This later appearance of the same type in baser metals in the West of England suggests that Belgic culture came to the Poole–Cranborne region not directly from Gaul, but from Kent, where the type doubtless had its original mint. Emigration from Kent to the West may well have been caused by the conquest of Kent by Eppillus, son of Commius (see pp. 283, 288). There is also pottery evidence of cultural connexion between Kent and this Western district (see Hawkes, *op. cit.* p. 308).



MAP V. DISTRIBUTION OF THE EASTERN COUNTIES GROUP AND COINS OF THE BRIGANTES

A similar, but distinctive, coin-series developed at the same time in the Eastern counties, and there too the Gaulish coinage of the Atrebates was the prototype. The tendency for Gaulish coins to circulate in Essex and even into Norfolk is seen on MAPS II and III. The gradual development therefore of a coinage similar to the British Atrebatic type is natural enough, and a divergency of style is not surprising under the influence of Celtic tribes who had not yet been touched by Belgic culture. The interest of this Eastern group of coins lies in its gradual development into the well known Brigantian coins of the 1st century A.D., the origin of which was not previously understood.

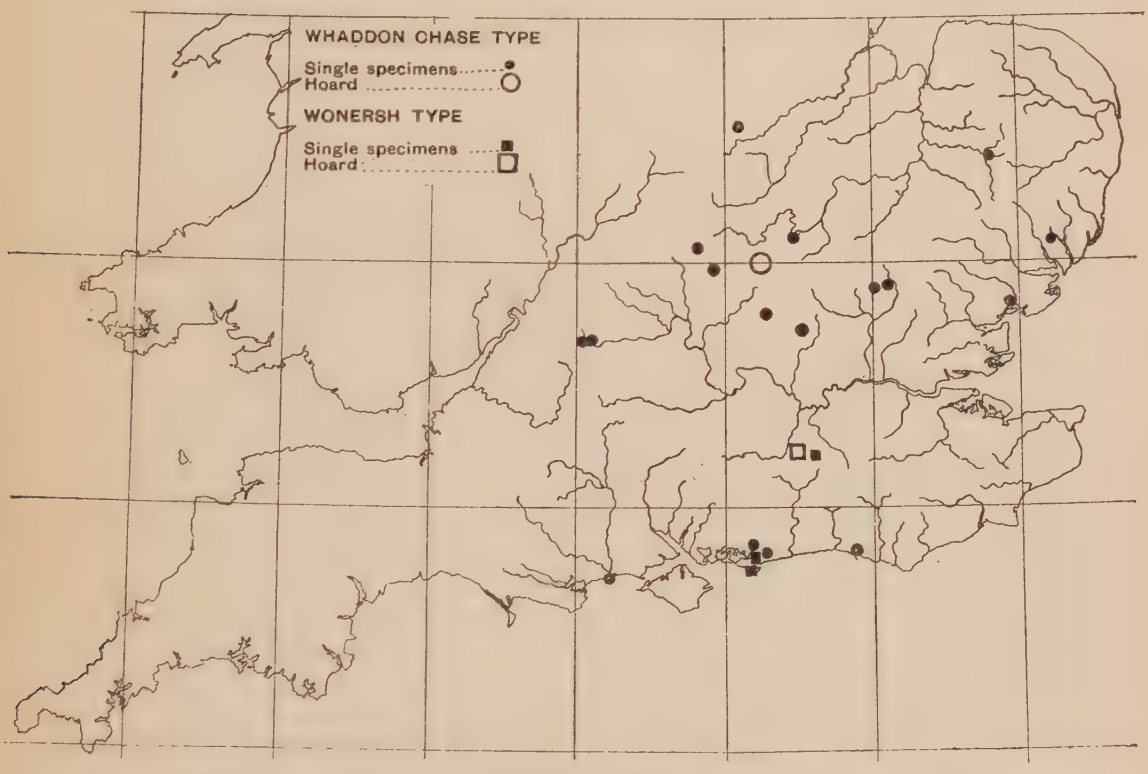
Specimens of the group are illustrated on plate 1, 5, 6, showing the chief peculiarities ; the obverse design has an angular technique with square leaves to the wreath and angular crescents, and there is a sharp line down the front of the head ; on the reverse an exaggeration of the curves of the horse develops ultimately into the entanglement which on the Brigantian coins (plate 1, 7, 8) is but faintly reminiscent of the horse's body ; a rosette below the horse on some coins of the group survives as a star on uninscribed Brigantian coins.

The distribution of this series, shown on MAP V, suggests a gradual northward spread into Lincolnshire and Yorkshire, where ultimately the Brigantian coins circulated, and at the same time a side-route goes off into Norfolk with such peculiarities as the wolf-like horse of plate 1, 9. The Whaddon Chase find had only one or two specimens, but a hoard believed to have been found somewhere in Essex contained 70 of them with 36 Gaulish coins and five of the ordinary British Atrebatic type. This hoard, as its position in Essex is not known, is omitted from the map, as are also single specimens of the Eastern group found on the Yorkshire coast, somewhere in Norfolk (two coins), and at Southbourne in Hampshire. Two Brigantian coins have been found somewhere in Lincolnshire. The Brigantian find-spots are of gold coins only ; no individual find-spots of Brigantian silver have been recorded, and the specimens at present known seem all to have come from the Honley (near Huddersfield) find, which contained only silver, and the South Ferriby (south bank of the Humber) hoard, which was of gold and silver. The two remaining Brigantian hoards, Lightcliffe and Almondbury (both in the Halifax–Huddersfield region), contained gold coins only.

The weight of coins of the Eastern group falls from just below 100 grains to about 85 grains in the latest specimens ; the Brigantian gold is usually between 80 and 85 grains to the stater.

GAULISH AND BRITISH COINS IN BRITAIN

We have already seen that the earliest British coinage, which we have named, from the Gaulish tribe to which its parent coinage is attributed, the British Atrebatic issue, continued in currency for a very long period as a localized coinage of the Cranborne Chase and Hengistbury area, where it became debased to silver and to copper with a parallel but slow degradation of type ; it reached the extreme limit of barbarity in the little cast copper coins found at Hengistbury Head.



Map VI. DISTRIBUTION OF BRITISH COINS OF THE WHADDON CHASE (Cassivellaunus) AND WONERSH TYPES

In the district north of the Thames the type underwent a complete change about the middle of the 1st century B.C. The conventionalized head on the obverse gave up all pretence at being a head and became a cruciform design, its angles being occupied by two locks of hair from the crown of the head, a crescent curl from the forehead, and the shoulder drapery. On the reverse a realistic horse replaced the disjointed animal that had satisfied the early settlers in their first attempt

at imitative coinage (plate I, 10). This type is known to us chiefly through the Whaddon Chase hoard, which was discovered in 1849; it contained this new coinage and the British Remic type, which is described below, in the proportion of about three to one. It must have been a very large hoard; as many as 350 coins were collected by the landowner whose tenant ploughed them up. The few find-spots available beyond the site of the hoard seem to fringe the headwaters of the northern tributaries of the Thames (MAP VI; a specimen found somewhere in Oxfordshire is omitted), and it is probable that we may take the group lying between the Thame and the Lea as the central point of distribution. However, we have better evidence on which to establish the source of this coinage. The development of the coins, as seen on plate I, no. 11, terminates in a type with a simplified form of the obverse design which is identical with that of the earliest coinage of Tasciovanus (plate I, 12). Thus we get a direct coin-pedigree from the earliest settlers of the first Belgic invasion through the Whaddon Chase type to Tasciovanus, and the district which marks the centre of distribution of the Whaddon Chase type, the Verulam–Braughing area, is the most prolific site of Tasciovanus's coins.

Tasciovanus is a name unknown to history; the coins alone prove his existence and they also tell us that he was the father of Cunobeline and that he had a mint at Verulam. Coins on the other hand give us no hint of the existence of Cassivellaunus, who by his defence against Caesar became one of the most popular characters of early history. Indeed in years past this perverse contradictoriness of history and coins gave rise to the suggestion that Tasciovanus and Cassivellaunus were one and the same person; but it is not reasonably possible to identify the defender of Britain in 54 B.C. with the father of Cunobeline who died in A.D. 43. Beyond doubt the Whaddon Chase type is the coinage of Cassivellaunus. Its association at Whaddon Chase with the British Remic type, which, as we shall see, was the coinage of the second Belgic invaders, indicates a date about the middle of the 1st century B.C., for its circulation, and the wheel which occurs on some of the coins is probably derived from the influence of the Remic coins. The latest variety, as we have seen, connects the Whaddon Chase type with an inscribed coinage bearing the name of Tasciovanus.

South of the Thames the Cassivellaunian type develops into a series with a wheel below and a large sun above the horse (plate I, 13). A hoard of these coins was found in 1848 at Wonersh, near Guildford, but apart from the hoard scarcely any specimens have been recorded

(see MAP VI), and of the hoard itself, which was buried in a hollow flint, we have no details except that the type which we name from it formed the greater part of it. A southward direction, as the map suggests, in Surrey and Sussex, is the likely centre of this coinage. In a type which is rarely found elsewhere than on the Sussex coast, and then in Surrey or Sussex (plate I, 14), Wonersh characteristics, the sun for example, and the rosette in front of the horse turning into the pole which distinguishes the Sussex group, are blended with definite Remic features.

The second Belgic invasion is dated to about the year 50 B.C., and is connected with the name of Commius, the king of the Gaulish Atrebates, who took part in the revolt of Vercingetorix, was defeated at Alesia in 52 B.C., led another unsuccessful revolt in the following year, and then took to guerrilla warfare. On his surrender, Caesar tells us, his petition was granted that he should not have to meet a Roman face to face again. Frontinus relates the story of his escape to Britain pursued to the French coast by the Romans.

British coins bearing the name of Commius are known. They offer a new presentation, though still a disjointed one, of the horse in the reverse design ; it has a triple tail and is accompanied by a wheel, not the old chariot-wheel which had long since been degraded to an eye-ornament below the horse's tail, but a real wheel placed beneath the horse's belly (plate I, 17). The original model of this style of horse may be found in a Gaulish coinage which is doubtfully attributed to the Remi but was certainly issued by one of the tribes of Belgic Gaul. The obverse of the Gaulish coin (plate I, 15), has, set in the conventional head-design, a peculiar ornament, an eye in a large V-shaped frame, which on later coins occupies the whole field, ousting the normal head design. This obverse is never copied on the British coins, but the Gaulish reverse is adopted intact to accompany the old British obverse design. The Remic staters (accepting the name for differentiation, though their attribution to the Remi is doubtful) are rarely found in Britain ; the discovery of one at Whaddon Chase, perhaps originally in the hoard, is the only record I know of British provenance.

There is quite a considerable coinage, which forms a connecting link between the Remic coins and the coins that bear the name of Commius. Their reverse copies to perfection the reverse of the Remic staters, the triple-tailed horse with a wheel below, but the obverse either retains the older form of the conventionalized head or, like the so-called Morinic coins of Gaul, has a plain convex surface without any

design (plate I, 16). In weight the British coins, which for convenience may be called the British Remic type (as opposed to the British Atrebatic type, the coinage of the first invasion), differ very little from the Gaulish. The Gaulish coins are recorded at 92 to 95 grains, the British weigh 91 to 94 or, with plain obverse, 90 to 92 grains. Similarly in the Atrebatic series the earliest British coins were struck at the weight of the Gaulish staters. But the staters of Commius, though they differ from the uninscribed staters only in the form of the stylized curls on the head, turn the scales at 82 to 84 grains, a weight slightly lower than that of the coins of Cassivellaunus, but level with those of Tasciovanus and the Wonersh type. If, as is the natural explanation of this series, the uninscribed coins are the earliest issue of the second Belgic invaders, their weight, which is much in excess of the contemporary coinage of Cassivellaunus, is difficult to explain, and it is not made easier by the steep drop in weight of the coins of Commius, who is regarded as the leader of the invasion. It is possible that a coinage, originally based by the new settlers on the standard of their parent tribe in Gaul, was quickly lowered to the level of existing British coins, namely the Whaddon Chase and Wonersh types. The other possible explanation is that the earliest settlers of the second invasion came a few years before Commius himself arrived, in fact before Cassivellaunus developed his coinage from the earlier British Atrebatic type.

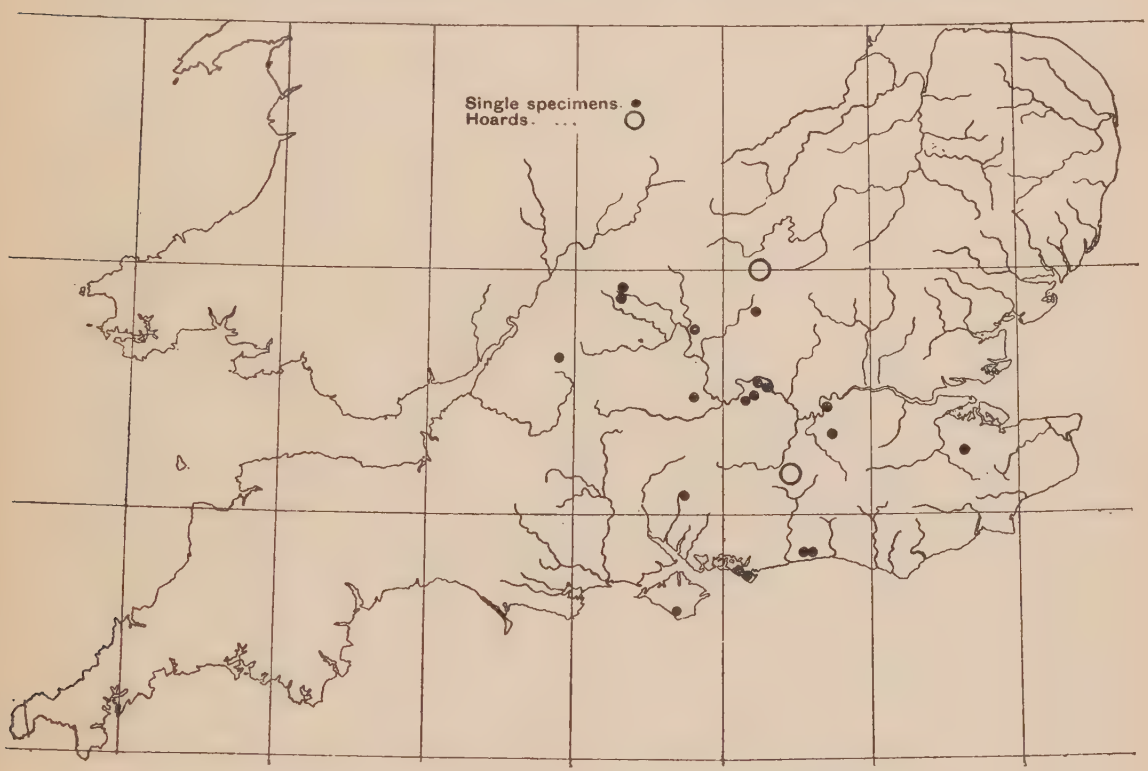
However this may be, the British Remic type formed a new coinage based on a fresh model from Belgic Gaul ; the spread of the uninscribed coins lies along the southern bank of the Thames between Maidenhead and Reading, centred perhaps on Calleva,[3] and thence spreading to the head-streams of the river ; on the lower Thames no specimens have been found ; a few have been discovered on the Sussex coast (MAP VII ; a specimen has also been found somewhere in Northamptonshire).

In the Thames watershed the circulation of the British Remic coins meets the issues of a Cotswold group (MAP VIII) which is characterized by a new obverse design, a stylized corn-ear (?). A few specimens of the Cotswold coins are uninscribed, and the remainder bear names unknown to history : Antedrigus, Comux, Catti, etc. ; the latest bear in place of the corn-ear the name Bodvoc across the field of the obverse (plate I, 18, 19). There is a parallel coinage in silver, both uninscribed and inscribed ; the type is a very degraded, hardly

[3] But the signature *Calle* on coins of Eppillus cannot be identified with Calleva. See p. 283.

recognizable, profile head, and a disjointed horse ; but the Bodvoc silver has a head and a horse of new style showing Roman influence.

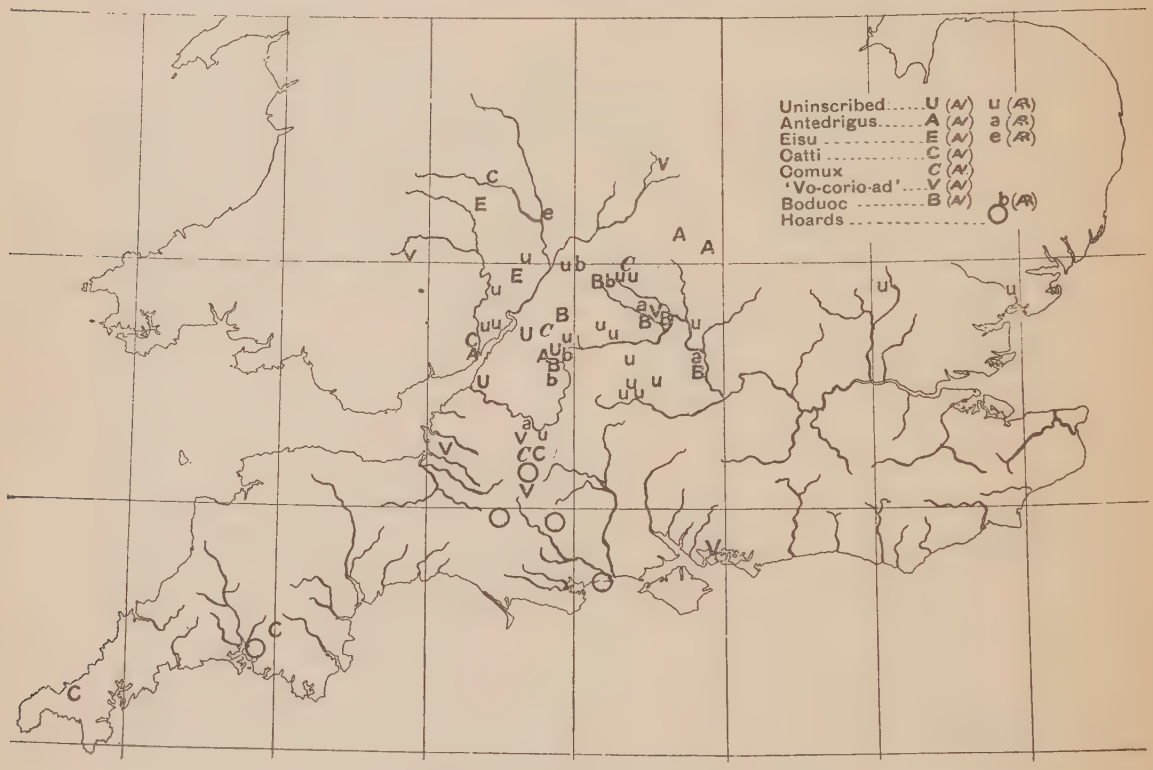
The centre of this group seems to lie in the Malmesbury–Cirencester region with a circulation across the Cotswolds from the Thames to the Severn and also southwards in the shape of a wedge with the apex at the point of Somerset, Wiltshire and Dorset. It is



Map VII. DISTRIBUTION OF BRITISH REMIC COINS (Second Belgic Invasion)

therefore a coinage of the Dobuni, a tribe of the old Celtic stock, imitating the coins of the second Belgic invaders which found their way to the upper reaches of the Thames. Though the uninscribed staters weigh between 85 and 87 grains, the inscribed are only between 80 and 85 grains. It is a distinctly late group of coins ; the hoard of gold and silver of this class found at Nunney in 1860 contained also Roman coins of which the latest was a denarius of Caligula attributed

to the year A.D. 37. Silver coins of this type were found at Hengistbury Head; uninscribed gold at Mount Batten, near Plymouth, and inscribed gold at Sherborne. The southern limit of circulation is reached where it comes into contact with the localized currency of the British Atrebatic group in the Cranborne Chase area (cf. MAPS IV and VIII); south of this point the coins occur only in hoards. Here the conservatism

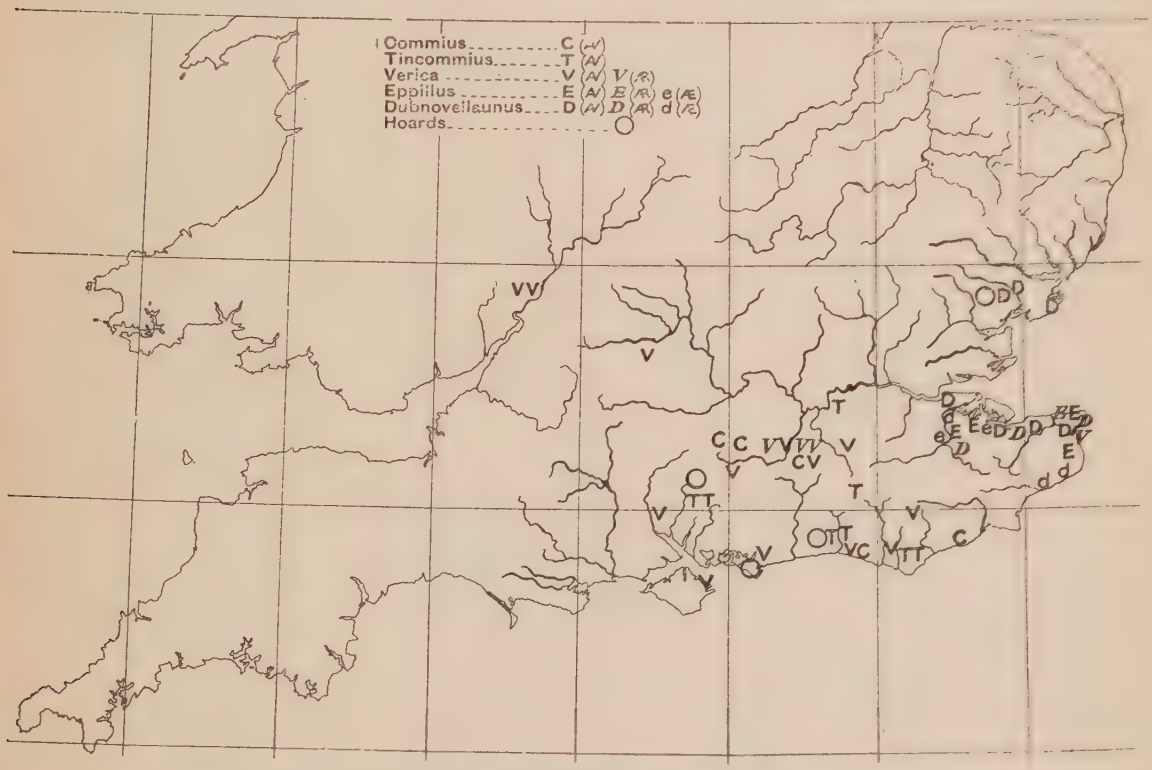


MAP VIII. DISTRIBUTION OF COINS OF THE DOBUNI

of the Kentish–Belgic culture refused to admit the coinage of the Dobuni into circulation.

Three British kings, Tincommius, Verica, and Eppillus, bear on their coins the title *Commi filius*. The earliest issue of Tincommius retains the type of his father's coins (plate II, 20), but otherwise the three brothers adopted Roman types in both gold and silver, and Eppillus in copper also (see plate II, 20–23, 26–33). The distribution of

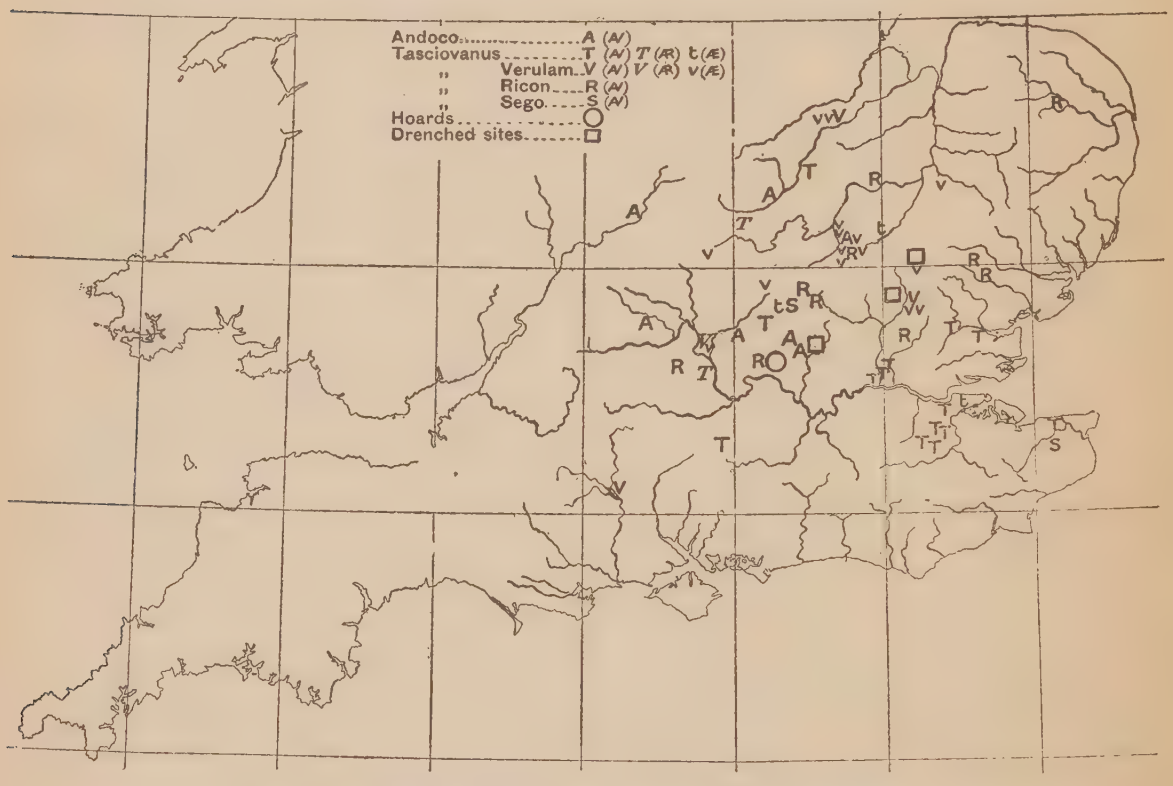
their coins (MAP IX ; single specimens of gold coins of Tincommius, Eppillus, and Dubnovellaunus, and a silver coin of Eppillus have been found somewhere in Kent, and a gold coin of Tincommius somewhere in Sussex), shows clearly a separate kingdom of Eppillus in Kent along the northern side of the North Downs, which, incidentally, precludes the attribution of the signature *Calle* on his coins to *Calleva Atrebatum*



MAP IX. DISTRIBUTION OF COINS OF THE COMMIUS FAMILY AND DUBNOVELLAUNUS

(Silchester). The kingdoms of Tincommius and Verica are less easily interpreted on the map. The more northerly district, along the line of the Surrey Hills, has produced gold and silver coins of Verica but none of his brother ; here we may presume Tincommius never held sway. But on the Sussex coast, and in the strip that seems to connect these two kingdoms through Southampton Water, coins of both are fairly evenly distributed. The corridor to the sea was perhaps

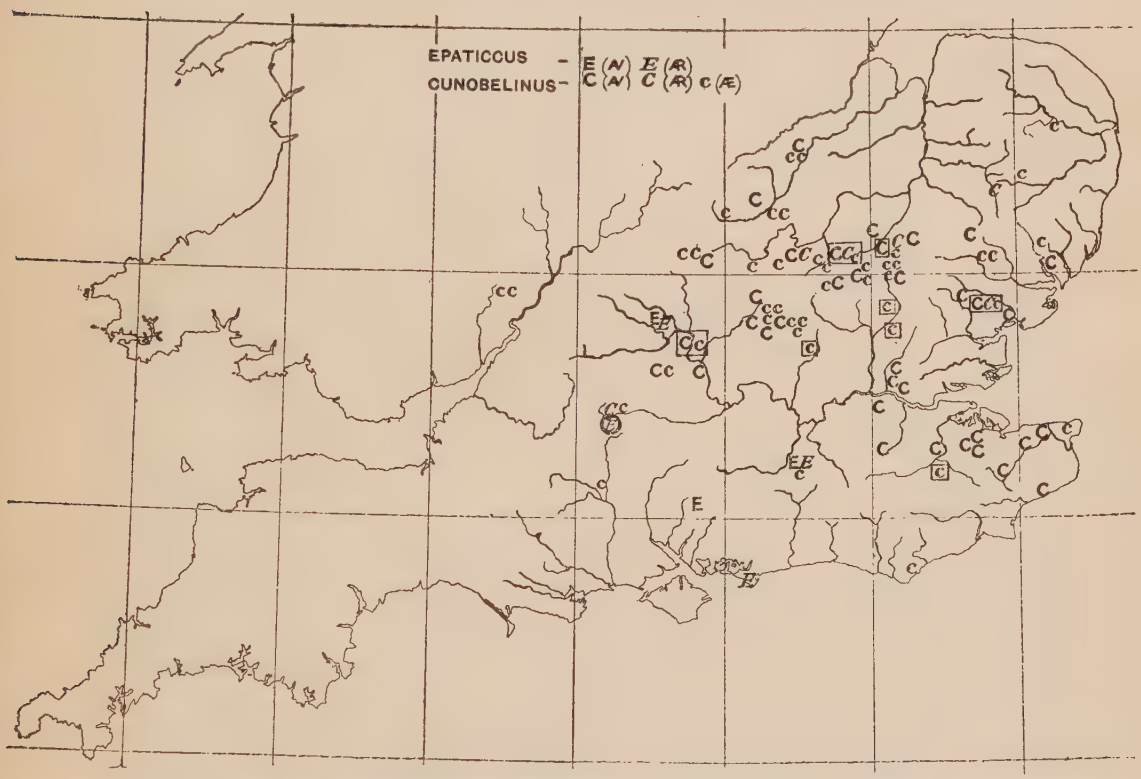
Verica's alone, for two coins only of Tincommius, found in the neighbourhood of Winchester, lie within it, but Verica has to his credit a hoard of staters from Alresford and single specimens from Alton, Romsey, Ryde (Isle of Wight), and near Portsmouth. The two brothers share fairly evenly the find-spots in the coastal region, and coins of both, those of Tincommius in greater number, are among the many



Map X. DISTRIBUTION OF THE COINS OF ANDOCO AND TASCIOVANUS

gold coins which have been found from time to time on the Selsey-Bognor shore and which probably belong to a large hoard originally buried in the cliff, and silver coins of Verica, with possibly a few of Tincommius, were in the Lancing Downs find. We may reasonably conjecture that a kingdom between the South Downs and the sea passed from Tincommius to Verica, who was already king of the Surrey Hills district.

In the country north of the Thames the kingdom of Cassivellaunus passed, apparently after a brief reign of 'Andoco-', into the hands of Tasciovanus (MAP X. A copper Tasciovanus is recorded somewhere in Berks; Verulam copper at South Shields, somewhere in Herts, and somewhere in Hunts). The interesting feature of the coinage of Tasciovanus is the complete barrier that the Thames formed to its



MAP XI. DISTRIBUTION OF THE COINS OF EPATICCUS AND CUNOBELINE
The framed letters show sites drenched with the coins

circulation except in the portion of Kent between the Darenth and the Medway, a strip of country which seems to be devoid of coins of the Commius family.

Tasciovanus had, the coins tell us, two sons, Epaticcus and Cunobeline. Some of the types struck by this family are illustrated on plate II, nos. 34–51, for comparison with the coinage of the Commius family. Detailed comment upon them is not necessary here; the

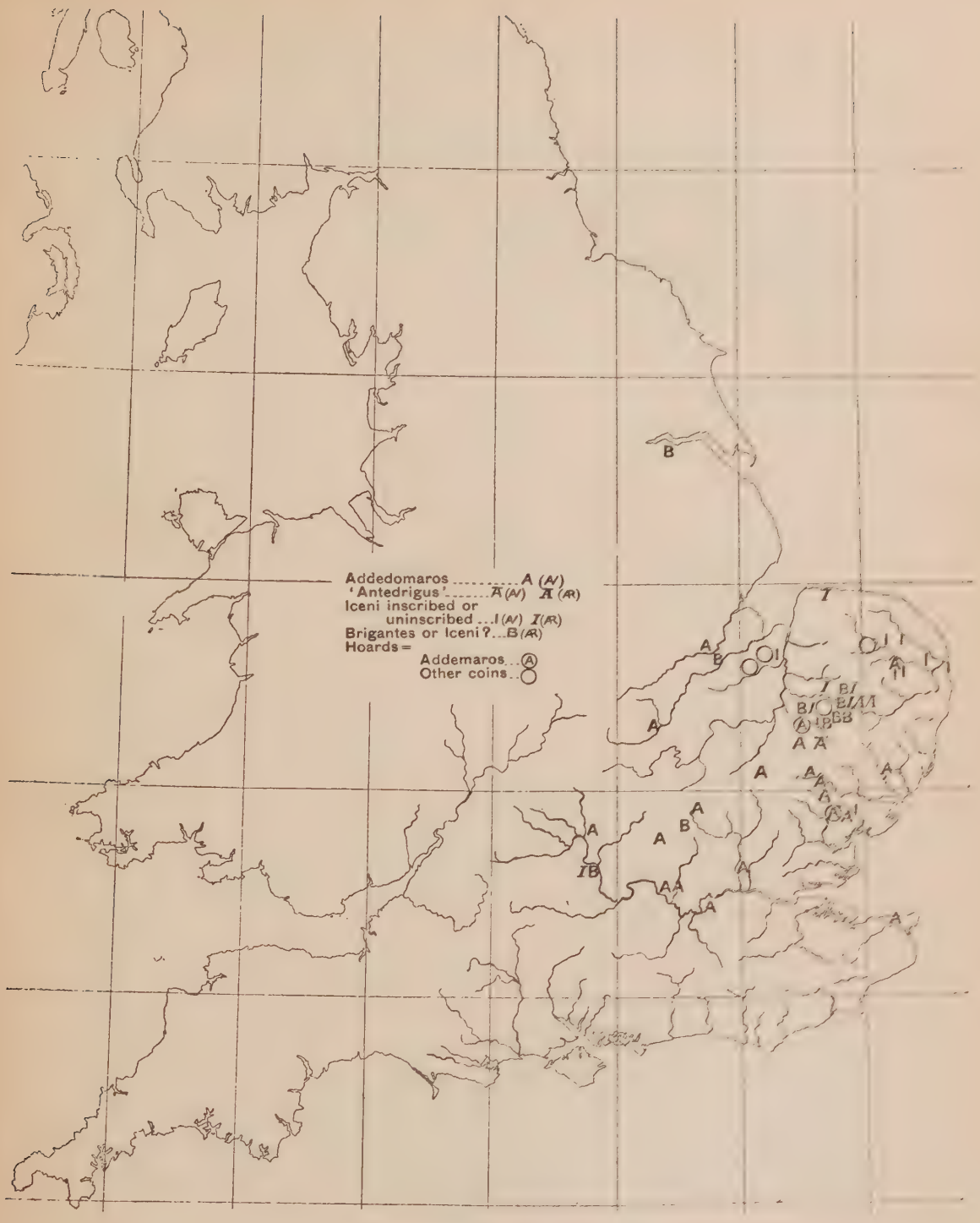
distribution of their coins, with which we are at present concerned, may be seen on MAP XI.

Epaticcus, so far as we know, struck only gold and silver, and his coins are rare ; the map therefore does not give a clear picture of the district he ruled, but it is remarkable that he is the only one of the family whose coins lie in the realms of Tincommius and Verica (one gold coin of Tasciovanus and one copper coin of Cunobeline are the only exceptions). This fact is surely significant, and it is also significant that of his few coins the remainder have been found on the eastern boundary of the Dobuni. It is noteworthy too that we know no copper coinage of Epaticcus ; copper seems to have been confined to the Catuvellaunian and Cantian kingdoms ; none is known of Tincommius or Verica. May we perhaps regard Epaticcus as a wanderer in search of a kingdom, driven out of his father's land by his more powerful brother, founding a settlement on the border of the Dobuni, and later with more success invading the territory of Verica, son of Commius ? His coins have never yet, so far as I know, been found within the dominions of Tasciovanus and Cunobeline. In Savernake Forest a few of his coins were found in fine condition with some very base imitations of the British Remic staters and a denarius of Tiberius of *c.* A.D. 25–30, which was so worn as to indicate long circulation before its burial.

The coins of Cunobeline are spread more thickly over the same area north of the Thames as those of Tasciovanus (*cf.* MAPS X, XI. A gold coin of Cunobeline has also been found somewhere in Nottinghamshire) ; in addition there is a drenched site at Colchester, where he had his only mint,[4] and also in Kent, where, perhaps by coincidence only, his coins have not yet been found in that area between Darenth and Medway which contains the only group of Tasciovanus's coins south of the Thames.

The Kent and Essex areas are especially interesting. In both of them we have to take into account the coinage of Dubnovellaunus, shown on MAP IX, and his coins are the key to the position. They are of two distinct types ; one, figured on plate II, 25, has a horse closely resembling that of Cunobeline but with the palm-branch below it (*cf.* plate II, 35) ; the other (plate II, 24), with a plain obverse field crossed by two parallel incuse lines, is very near the Andoco- and early Tasciovanus gold not only in the style of the horse but in the ornaments,

[4] Unless a few copper coins bearing no mint signature are to be assigned to Verulam ; this is unlikely.


Addedomaros ..... A (Æ)
'Antedrigus' ..... Ā (Æ) Ā (ÆR)
Iceni inscribed or uninscribed ... I (Æ) I (ÆR)
Brigantes or Iceni? ... B (ÆR)
Hoards =
Addemaros ... Ⓐ
Other coins ... ○

Map XII. DISTRIBUTION OF COINS OF THE ICENI

a bucranium and a scythe or wind-instrument (?), which accompany it (*cf.* plate I, 12, and II, 24). The former type is always found in Essex, the latter always in Kent.

The Kentish coinage of Dubnovellaunus was, therefore, struck in imitation of the early coinage of Tasciovanus, of which we have already traced the pedigree ; his Colchester coinage was the predecessor of the coinage of Cunobeline. Tasciovanus preceded him in Kent, Cunobeline followed him in Essex. The relative position of Eppillus, whose coins are found only in Kent, is not easy to determine ; it is by no means certain whether he should be placed before or after Dubnovellaunus. Copper types used by Eppillus imitate Roman coins which were struck at Lugdunum between 15 and 10 B.C., but the whole coinage of Dubnovellaunus seems at least to derive its inspiration from, if not directly to imitate, the gold, silver and copper of Tasciovanus, and the inscription of his name as a suppliant on the Ancyra monument only tells us that he was a contemporary of Augustus. At Colchester Dubnovellaunus must have been in occupation down to the time of Cunobeline's accession ; but if, as may well be, Cunobeline occupied the kingdom at Colchester during his father's lifetime, this again is no guide to the relative positions of Eppillus and Dubnovellaunus.

On the whole the balance of evidence seems to be in favour of regarding Eppillus, son of Commius, as being the earliest king to introduce a named coinage into Kent. Tasciovanus probably drove him out and put into circulation his own coins, which thus became the model for the coinage of his successor, Dubnovellaunus, who presumably came there by conquest and already had a kingdom at Colchester. Cunobeline seized both kingdoms, retained for his own use Dubnovellaunus's mint of Colchester, and supplied the Kentish kingdom, and ultimately also the great kingdom north of the Thames, with coins from the Colchester mint.

The last map of the series, MAP XII (add an Icenic gold coin somewhere in Norfolk, an Icenic silver coin somewhere in Suffolk), shows the distribution of the Icenic coins, and completes, in conjunction with MAP V, the coinage of the Eastern Counties. This group includes a large series of silver coins inscribed *Ateth*, *Atth*, *Ated*, on which the letters *At* have been read, unnecessarily I think, as the three letters *Ant* in ligature (plate II, 53). In this way the name has been assumed to be Antedrigus by analogy with the king of the Dobuni, and a story has been woven round the supposed identity of name, making the Icenic

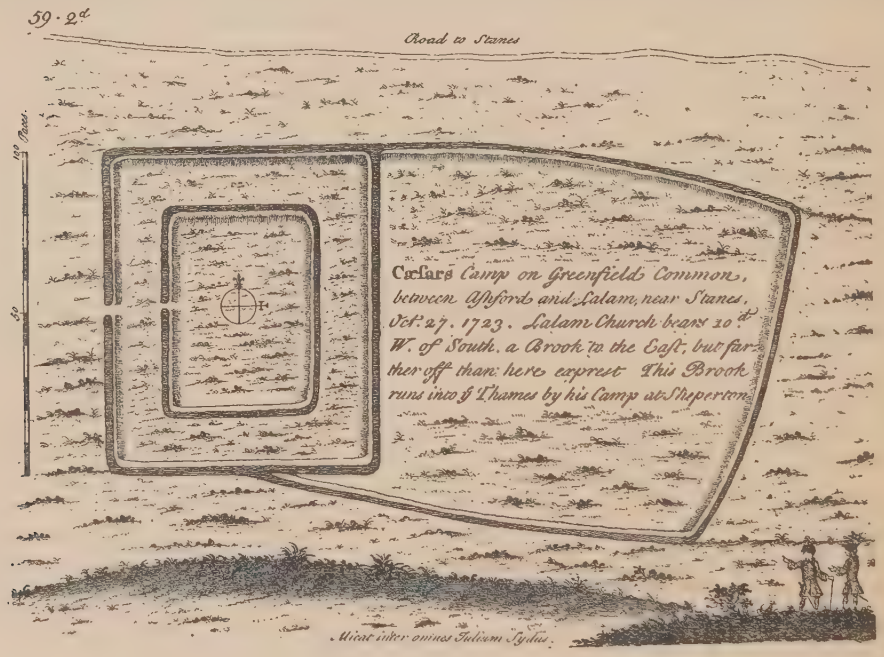
king retreat after the defeat of the Iceni by Ostorius Scapula in A.D. 47 and found a kingdom, or be admitted to sovereignty of the existing kingdom, in the Cotswold country. If we accept the natural reading *Ateth* or *Ated* and admit the interchange of the letters T and D (*Dias* for *Tas* occurs on a coin of Tasciovanus), there is no difficulty in assigning these silver coins to Addedomaros (a stater of Addedomaros is illustrated on plate II, 52), whose plentiful gold coinage without silver seems curiously lopsided in the Icenic series which is so plentiful in silver coins.

The Icenic coins ceased presumably on the conquest of the Iceni by Ostorius Scapula in A.D. 47. Among the Brigantes, British coins continue to Cartismandua, whose rising in A.D. 69 was quickly followed by the reduction of the Brigantes by Cerealis and their subjection to Rome. In the south the latest British coins are the issues of Cunobeline; he died immediately before the Claudian invasion in A.D. 43. The Surrey and Sussex area was perhaps seized from Verica, son of Commius, by Epaticcus, brother of Cunobeline, and his coins are the latest in this district. Of the Dobunic coinage we only know from the Nunney hoard that it was in circulation in A.D. 37 and probably later. The Cranborne Chase–Hengistbury region seems to have retained its base local currency into the second half of the 1st century A.D. Roman conquest was very speedily followed in all districts by the withdrawal of British coins from currency.

Some Recent Air Discoveries

described by O. G. S. CRAWFORD

TWO hundred and ten years ago ' old Stukeley ', the Archdruid, (then 36 years of age) made a famous discovery on a heath near London—nothing less than one of Julius Caesar's camps. At least Stukeley liked to think it such, and to embroider his treasure with many fanciful imaginings. ' Here he received the ambassadors of the


59 · 2d
Road to Staines
Caesars Camp on Greenfield Common, between Ashford and Lalam, near Staines. Oct: 27. 1723. Lalam Church bears 30d W. of South. a Brook to the East; but further off than here express'd This Brook runs into ye Thames by his Camp at Sheperton

CAESAR'S CAMP ON GREENFIELD COMMON, MIDDLESEX
From Stukeley's *Itinerarium Curiosum*, 1776

Trinobantes, desiring their prince Mandubrace to be restored. . . . Another day came in ambassadors from the Cenimani, Segontiaci, Ancalites, Bibroci and Cassi '. True to his laudable custom, he made a rough plan of the ' camp', which shows that it was, according to his own measurements, 100 by 80 paces, and contained within it another

similar enclosure. There was also an irregular eastern annex, 100 paces by 130, designed for the accommodation of the second lot of ambassadors !

Stukeley's plan (reproduced here) gives just the bare minimum of information necessary to locate the position of his discovery. Greenfield Common has long ago vanished, but it is shown on Rocque's map of Middlesex (1776). It lay about a mile southeast of Staines. There seemed just a possibility that the earthwork in question might really be a Roman camp, though perhaps the plan hardly justified this optimism. It was at any rate a lost earthwork and its recovery was obviously desirable. The first step was to visit the site, and this I did on 31 May 1925. I found the ground uneven and the crops streaky, so far as a ground-view enabled one to see them ; and there were, as usual, a few pot-boilers. But beyond this there was nothing to indicate anything of the nature of an earthwork.

This first attempt being a failure, it remained to try the air, but no opportunity occurred for five years. Then, on 23 June 1930, at the end of a long flight from Scotland already referred to in ANTIQUITY (IV, 277) just before landing at Hendon we flew over the spot and to my great joy I saw the two ' boxes ', one inside the other, just as they were portrayed by Stukeley. But merely to see it was not enough ; photographic record was essential ; and at the time this was not practicable.

Three years went by, and one began to fear that the site, so strangely recovered after two centuries of oblivion, would fade once more from memory, this time probably for ever. For the rising tide of villadom had almost reached it, ; within a few yards is a neat row of residences, each with its back garden encroaching upon the field; and it would only be a few years before the whole was engulfed. Fortunately it has been saved from this fate in the nick of time by Major G. W. G. Allen, who has been devoting himself with great success to the discovery and collection of crop-sites (and others) from his aeroplane. The air-photograph reproduced here (plate I) was one of three taken by him on 15 April last, and is reproduced here by his permission, together with some others, which I have undertaken to describe for him.

' Caesar's Camp ' has now been put back on the map, and in a way that Stukeley could never have foreseen even in the wildest flights of his imagination—and that steed was a Pegasus that soared into some strange unearthly realms ! We are forced, however reluctantly, to eliminate Caesar from the scene ; the star of Julius never shone on Greenfield Common. The earthworks have none of the characteristic

features of a Roman camp. The ditches are far too narrow, and the corners far too angular. What it is, however, we cannot say. The nearest analogy is another crop-site in Kent, between Canterbury and Dover, discovered and photographed last year by an officer of the Royal Air Force then stationed at Manston (plate II). The enclosure is again of the double-box type, and it lies close beside the Roman road, which is plainly revealed on the photograph. The outer side is exactly parallel to, and within a few feet of, the side-ditch of the Roman road ; and it seems impossible to believe that it can be anything but contemporary with the road. There are no surface indications either of the earthwork itself or in the form of potsherds or other relics.

Perhaps this may seem a tame ending to a quest which began so romantically ; perhaps it is. But it need not be the end. Before the final obliteration comes, a few days' work with the spade would probably determine the age and character of the ditches revealed by the photograph. It would not be a job for anyone but a digger of some experience, however ; for the chance of datable finds is not very great. We must leave it at that, with a tribute to the enthusiasm and success of Major Allen who rescued it from oblivion.

The dry spring has been exceptionally favourable for observing soil-marks, for it has ' developed ' the latent differences of tone and colour in banks that are under plough. Those markings that are not always responsive to crops have been revealed. This has been particularly noticeable in Fenland. The ancient river-channels were visible with extraordinary distinctness at Easter when I had a flight over part of the area, and the Roman field-system of Gedney Hill in South Lincolnshire was actually as plainly visible as the existing fields, if not more so. A mosaic of air-photographs will be obtained of a portion of Fenland during the present summer, through the cooperation of the Royal Air Force. Without a complete air-survey of the whole region, no satisfactory history of it is possible ; but it is hoped that this may be secured during the next few years. Fenland is one of England's best palimpsests, and a good air-photograph there has all the value and interest of a historical manuscript, with the added advantage that it is possible to manufacture them to an almost unlimited extent.

Just on the border of Fenland Major Allen has recovered what is virtually a new Roman road (plate III). Though marked as such on the 6-inch Ordnance Map, it has not hitherto been authenticated, and it does not therefore appear on the map of Roman Britain. It runs in a

northeasterly direction from Durobrivae, and may be the western portion of the Fen road from Norfolk.

But Major Allen's best discoveries this year have been made in the Upper Thames district. It was already known that the gravel flats between the lower Windrush and Evenlode rivers, immediately north of the Thames, were prolific in crop-sites, mainly barrow-circles ; and the reason for this had been suggested some time before by Mr Thurlow Leeds, V.-P.S.A. The natural conditions were those which exactly suited prehistoric man, and he therefore settled here in large numbers. The air-photograph here reproduced (plate IV) records remains of three periods—the circles belong to the Bronze Age and represent the ditches of barrows which have been destroyed by cultivation ; the straight dark lines below the trees on the left are the remnants of a later but still prehistoric field-system ; and the parallel lines, set closely together, in the same field (and also at the top of the photo.) are the remains of medieval ridge–and–furrow cultivation.

There are no less than 26 circles (or ovals) visible on this photograph, all of them new discoveries recorded for the first time by the air-camera. As usual, in the centre of some can be seen a small dark spot, marking the site of the pit where the burial is. In the centre of the picture is a circle of an unusual kind ; and on its left a flattened oval. Immediately above the latter is an egg-shaped enclosure of a kind that occurs fairly frequently on air-photographs.

In addition to the circles one can see quite plainly the remains of the medieval ridge-and-furrow system, represented on the photograph by parallel striping. These stripes are seen most plainly in the field on the left, below the trees. Now we have at the Ordnance Survey, amongst our collection of photographs of old cadastral plans, one of this area made from an actual survey in 1615. A careful comparison of this map with the modern 6-inch map (Oxon. 32 SE), by means of measurements and transference of detail, shows, what is evident also from the air-photograph—namely, that several of these circles fall upon ' ridge-and-furrow ' land which formed part of the arable in 1615. There is little doubt that arable in 1615 was also arable for some years, if not centuries, before it ; yet these circles have persisted. On the other hand, the land on the right of the photograph is called Barrow Hill on the map of 1615, showing that mounds were visible there at some earlier date. The same map marks a spot across the road (in the top right-hand corner of the photo.) by the name of Deadman's Burial. No circles can be seen at this spot.

On plate v is a smaller group of circles just outside the village of Stanton Harcourt, which is seen on the left. The most remarkable feature of this photograph, however, is the dark kidney-shaped figure near the centre, to the right of a sandpit. It surrounds three dark spots ; and other spots are thickly scattered over a wide belt below it. What is the explanation of them ? I do not think they are of modern (agricultural) origin. Their distribution in the field is against this ; and they seem, moreover, to be associated with an irregular line which clearly passes into the field beyond, and has therefore no relation to modern conditions. Further, in the long narrow field below on the left can be seen a small white spot ; this is one of the three Devil's Coits, standing stones. Their origin and purpose is unknown, but they have always, and no doubt rightly, been regarded as megalithic monuments of prehistoric age.[1] One of the others was shown by an air-photograph taken in 1928 to be surrounded by a wide, roughly circular ditch.[2] It seems possible therefore that the kidney-shaped enclosure, though smaller, surrounded other standing stones, now gone, whose site is marked by the dark spots. It is hard to believe, however, that all the other spots mark the site of standing stones ; such a Carnac seems unlikely in this almost stoneless district. If I may chance a long shot I should say that the galaxy of spots represents either the site of *wooden* posts of a funerary character, or a late Bronze Age urn-field, or possibly a combination of both.

In the two fields below the village are circles and lines of an irregular pattern. Immediately above the village and to the right, the remains of the medieval common fields of Stanton Harcourt can plainly be seen ; the ridge-and-furrow system is quite well brought out.

On the right of the photograph, below the cross-roads, is a gravel-pit ; and to the left and below are numerous crop-marks.[3] One is a double circle, of the kind we have tentatively suggested may have been a bell-barrow. To the right of it are parallel lines which may represent prehistoric field-boundaries. In this gravel pit three beakers, a food vessel, part of a collared urn and other remains were found in 1929 (*Antiquaries Journal*, 1931, XI, 59–60). It is much to be desired that excavations should be undertaken ahead of the gravel diggers, so that the interments in some of the principal circles at any rate may be

[1] See my *Long Barrows of the Cotswolds* (Bellows, 1925) p. 212.

[2] Major Allen reports that this circle is only partly visible this year.

[3] Major Allen has taken a special photo of this, but we have not reproduced it here.

extracted under proper supervision. One would also like to know the age and contents of the parallel lines.

Finally, plate VI shows a crop-site of an enigmatical character. It is in the big bend of the Thames between Dorchester and Long Wittenham, three-quarters of a mile SSW of Northfield Farm (Berks 10 SE, 11 SW). Close to this spot the Ordnance Map marks ' Site of Littletown, destroyed A.D. 1838 ' ; it is probable that in reality it was no more than a manor-farm, and that the position has been wrongly recorded on the map. The crop-marks here reproduced suggest the skeleton outlines of a farm-yard and buildings ; in the foreground are the two parallel lines representing the ditches bounding a road. It is interesting to note however that a much earlier circle—just beyond the entrance—has been overlaid by a later lay-out. Another circle can be seen some distance beyond. There are plainly two periods represented here, whatever the date of the later one may be.

The neighbourhood of Northfield Farm is interesting for another reason. It is one of the places where crop-marks were first scientifically studied. Close by, about the year 1899, the late Professor Haverfield and Professor J. L. Myres mapped a series of crop-marks on a Romano-British habitation-site discovered by the former. This mapping was partly done by means of the weeds in the stubble, after the corn had been cut, and the remarkably accurate plan drawn was published first in *Proc. Soc. Ant. London*, ser. 2, vol. XVIII, 10–14 and again in the *Victoria County History of Berks*, vol. I (1906), p. 221. The Ordnance Survey has an air-photograph of this site, taken in 1928, but it is hardly good enough to reproduce. Major Allen has secured better ones which will be published in due course.

It may be added, as a point of minor historical interest, that it was Professor Haverfield's remarks[4] on crop-marks in the Radley district which caused me to ask the R.A.F. to take air-photographs of this region. It is yet another tribute to his genius that observations made before the invention of aeroplanes should later have borne fruit so abundantly and in such a striking fashion.

In addition to the sites referred to above Major Allen has made many new discoveries this year which can only be briefly mentioned here.

WANSDYKE (Berks 41 SE). He has discovered an extension of about 400 yards, south of Old Dyke Lane in Inkpen, Berks. This extension definitely crosses the alleged ' swampy ' valley where it

[4] *Proc. Soc. Ant., London*, 2nd series, XVIII, 10 ff.

was supposed by Mr Albany Major to end ; but it does end here abruptly, just beyond. This new portion is the most easterly fragment known.

CALLOW HILL, OXON.[5] (21 SE). The site has been thoroughly photographed, and one or two new features discovered.

LEES FARM, CHARLBURY, OXON (21 SW). Northeast of the farm Major Allen has found a new earthwork with rounded corners. It may represent the site of ' le Forsakene-ho ' of A.D. 1298.[6]

BECKHAMPTON, NEAR AVEBURY, WILTS (28 SW). A group of at least six barrow-circles on the hill beside the road from Beckhampton to Avebury. One, and the site of another, were previously known and replaced on the Ordnance Map during the last revision (1925 edition of the 6-inch), making eight in all. All the rest are new.

Major Allen also examined the field in which Adam and Eve stand, but saw no signs of a circle or any other marks there.

ROLLRIGHT, OXON. No marks seen.

TWINLEY FARM, WHITCHURCH, HANTS. (17 NW). A new long barrow, and a round barrow. Round barrows had previously been recorded here, but the photograph makes it quite clear that what may have been mistaken for two round barrows is in reality a single long one. About 1918, an iron sword was ploughed up on one of the barrows, no doubt a secondary interment of the Saxon period.

When we recall that these discoveries (excepting plate II) represent merely a selection of those made by one man during a few flights, it is plain what a harvest is still waiting to be reaped. And what may we expect when other countries, now still virgin soil, are explored from the air ? (French papers please copy).

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[5] See ANTIQUITY, 1930, IV, 303 ff.

[6] Perambulation of Wychewod' Forest, published in *The Eynsham Cartulary*, ed. W. H. Salter, Oxford Hist. Soc. 1908, LI, 92-4.

The Loam-Terrains of Southeast England and their relation to its Early History

by S. W. Wooldridge and D. L. Linton

IN his most valuable and stimulating work on *The Personality of Britain*, Dr Cyril Fox has assembled a large body of archaeological data and has presented an interpretation of the several successive distributions based upon essentially geographical considerations. This theme covers a wide range of topics which interest workers in other fields, none more than geographers. One of the geographer's main interests lies in the study of Regions, and he may well claim to have been afforded by Dr Fox a most valuable addition to his data, which enables him to push back his study of regional distinctness into earlier periods than those with which history deals. In return, he may hope to contribute something to the interpretation from his own field which embraces analysis of regional physique in all its aspects.

It is from the latter point of view that the following brief contribution is offered. It is concerned with the physique of Southeast England in its relation to the earlier stages of settlement. The authors approach the subject in its archaeological contacts with some diffidence and would wish to make clear that their aim is not to criticize but to supplement Dr Fox's interpretation so far as it concerns Southeast England. It is evident that generalization based upon the whole or the larger part of British area must apply with varying emphasis to its several parts. The primary line of division of the country recognized by Fox is the 'Exe-Tees' line of the geographer. The area lying southeast of this line certainly constitutes a major unit, when judged in respect of position and relief, but it may fairly be contended that Southeast England, *i.e.* the area included within the main chalk escarpment as far north as the Wash, possesses certain features, especially soil features, which mark it off from the rest of the English plain and which have powerfully affected its reactions in the history of settlement. Chief amongst these soil features is the existence of extensive tracts of

loamy or ' intermediate ' soils, which present optimum conditions for cultivation, but which are not explicitly recognized by Fox and other workers who have dealt with the region.

We may briefly restate Fox's main thesis in respect of population and settlement, as a basis of discussion. He draws a fundamental distinction between the porous soils derived from chalk, sand and gravel and the heavy clay soils. In this way he is led to recognize ' areas of primary settlement ' on soils of the first type, and ' areas of secondary settlement ' on the heavy clays. Using the map showing massed Bronze Age finds as an index of population for that date, he calls attention to the importance of the upland chalk and limestone areas and suggests that it was the *extent* of the areas of porous soils which determined their selection for occupation. He comments further upon the mass of finds along the Thames valley, as affording an instance of an area of a different kind in which the relatively small extent of porous soils was probably compensated for by the attractions of transport, trade and fishing. He also notes the local concentrations of evidence near what were in essence bridge-port sites, where medieval towns subsequently sprang up.

Fox further comments on the fact that, though in the Beaker Period of the early Bronze Age the areas of porous soils were naturally far from being completely taken up, the expansion and increase of population during the ensuing thousand years still left considerable tracts of such porous soils unoccupied. In explanation he suggests that before the expansion was complete, increasing skill in agricultural methods permitted the beginning of exploitation of the clay lands, the areas of secondary settlement, and he regards such secondary settlement as conditional upon, not only a higher standard of agriculture, but of civilization as a whole, in periods of greater political security. Chief amongst such periods were those of the Roman occupation and the later phase of the Anglo-Saxon expansion. It is to the second period that he would attribute the main phase of attack on the forest lands, regarding the smaller beginnings evidenced in Iron Age and Roman-British times as in some sense ' false starts ' in a general process. He notes that the existence of the pre-Roman Belgic dynasty was a not unimportant phase in the process which led to a ' shift in the economic centre of Britain from the chalk plateaux—the Salisbury Plain region—to the richer lowlands of East Anglia '. In spite of this change it is pointed out that London had not become in any sense a regional focus during Iron Age or earlier times—but came into being only in the

Roman phase, when penetration of the surrounding woodlands first became a really practicable possibility. Dr Fox suggests that the general movement to the areas of secondary settlement is what is really implied in the oft-used term ' valley-ward ' movement which was a change in mode of exploitation rather than in habitation—a move from the poorer to the richer soils.

With most points in the general thesis thus elaborated by Fox, the authors are in cordial agreement. The main ground of difference may be summarized in the suggestion that it is not sufficient to divide the soils of the region into two classes, essentially permeable and impermeable. It is, of course, evident that there are many local variations which cannot in any case figure in a general survey ; that this is the case Fox clearly states. Our point, however, is that a third main group of soils exists, intermediate between the extreme classes. The significance of these loamy or intermediate soils in relation to settlement and agriculture in all ages cannot be too strongly insisted on. Their characters are as definite and as worthy of separate recognition as those of the chalk, sand and clay soils treated by Dr Fox. By styling them ' intermediate ' we do not simply imply that they are gradational, comprising in various degrees the characters of the extremes between which they fall. That to some extent they partake of this nature is not to be denied, but a truer view is that which regards them as a natural soil group, giving rise to highly distinctive and clearly bounded regions, which figure among the more important settlement areas of the country from Bronze Age times onward and which remain clearly recognizable in the present-day ' cultural landscape '.

The rather general failure to recognize the importance of this soil-type in Britain is attributable in part to confusion and accidents in geological nomenclature and to the reluctance of British geologists to use the term *loess* for what are undoubtedly the analogues or equivalents of that well-known accumulation. The significance of the *loess* and related *limon* soils of the continent of Europe has been fully recognized by archaeologists and geographers. It may be recalled that Vidal de la Blache, in his well-known ' Carte pour servir a l'histoire de l'occupation du Sol '[1] figures the areas of *loess* and *limon* soils clearly. In the accompanying text he shows that these soils, giving optimum conditions for agriculture, have been salient features in the complex of

[1] ' Tableau de la Géographie de la France ', in E. Lavisse, *Histoire de France*. (Hachette).

European conditions in both prehistoric and historic times. They extend in two zones across Europe, one passing from Moravia and the Danube valley to Alsace, while the other extends from northern Bohemia *via* Saxony to the Hesbaye and Picardy regions. The map suggests the extension of similar soils into southeast Britain—but the areas are vaguely placed and ill defined. Indeed, little attempt has been made to recognize the equivalents of the *limon* soils in England and we may briefly review their distribution here.

In the first place it must be noted that extensive tracts of low-level or valley brickearth exist within the area and that large parts of the valley floors and terrace surfaces are not so much gravel, as loam-covered. The close resemblance of these deposits to *loess* has often been commented upon and if this similarity be granted the question of origin need not here concern us. Among the important valley brickearth areas, we note the northern side of the Thames valley near London, especially the surface of the 'Taplow terrace'. This broad loam-covered ledge extends eastwards into Essex and also westwards from London, where it expands in southwest Middlesex into a considerable region. Reference to the newer geological maps will show how much of the area is thickly covered with brickearth ; but it should be noted that extensions of the latter, inconsiderable geologically, but, none the less, important in soil control, cover much of the area necessarily mapped as gravel, both here and in other localities. The brickearth areas south of the Thames are less extensive, but the clearly bounded plateau region behind Southend is of precisely similar type and a broad tract of loam-covered terrace gravels extends up the western side of the Lea valley to the neighbourhood of Hoddesdon. Extending our examination over a wider area, we note that the seaward and larger portion of the Sussex coastal plain is a precisely similar loam-region, while similar soil conditions recur over a wide area between Norwich and the sea[2] and in the Tendring Hundred of north Essex. Less considerable tracts of lowland loams which are nevertheless deserving of mention, occur in the Medway valley between Maidstone and Tonbridge and in the Sittingbourne area of north Kent.

Exactly similar soil conditions recur over the outcrops of the high level brickearths which occur locally on the chalk plateaux. These are certainly of different origin from the valley brickearths and in the opinion of the authors are largely, if not entirely, true *loess*. They

[2] P. M. Roxby, article 'East Anglia' in *Great Britain*, 1930.

LOAM-TERRAINS OF SOUTHEAST ENGLAND

SOIL TYPES AND INFERRED PRIMITIVE VEGETATION OF SOUTHEAST ENGLAND

1. Alluvial soils: marsh, water meadow and alder brakes.
2. Heavy clay soils: damp oak forest.
3. Residual and drift clays of high chalk plateaux: dry oak wood, etc.
4. 'Intermediate' or loamy soils derived from the following paren materials:—
   High and low level brickearths, and certain terrace gravels; Calcareous boulder clay; Thanet Marls; Lower Chalk; Upper Greensand (malmstone); Sandgate, Bargate and Hythe Beds; Original vegetation unknown, probably light woodland or scrub; arable from early times.
5. Sand and gravel soils: oak–birch–heath association.
6. Chalk soils: open chalk grassland and scrub.

The dotted lines in East Anglia delimit respectively the Norwich loam–region, and the colder, heavier boulder clays of Suffolk.

occur in scattered patches on the North Downs and the Chiltern Hills, generally overlying the true Clay-with-Flints, but it is only at the eastern end of the Chiltern plateau, between the valleys of the Mimram and the Beane, that brickearth soils are sufficiently dominant to constitute a loam-region. There is some tendency for the loamy variant of the plateau drift to increase in importance eastwards along the North Downs also, and it is possible that the block of chalk country between the Stour valley and the sea may merit recognition as a separate soil region ; but further investigation is required on this point.

So far we have been dealing with soil regions which all would recognize as analogous to the *limon* regions of the Continent, though identity has been masked by discrepant nomenclature. It remains to observe that closely similar loamy soils have been developed also upon several other important formations in Southeast England. The realization of this fact depends upon the examination of the soils themselves or of mechanical analyses of them ; the geological map with its relatively simple age nomenclature of itself yields little guide.

There are four chief regions or types of region in which loamy conditions occur beyond the boundaries of the brickearth tracts. In the first place we have the soils derived from the so-called marls or ' tuffeau ' of the Thanet beds of east Kent. From the coast to the Medway valley and to a smaller extent westwards to the outskirts of London, these beds yield loamy soils, the mechanical analyses of which compare closely with those of the brickearth soils. The region of optimum soil conditions thus defined is of the highest significance in the early history of the region. Soils, perhaps generally sandier but retaining the essential character and ease of working of loams, occur in the Lower Greensand region of the Weald, on the Hythe beds *east* of the Medway (which contrast very markedly with their more sandy equivalents to the west), on the Bargate and Loamy Folkestone Beds of the Guildford and Godalming area, and on parts of the Sandgate Beds of Sussex. Soils, again of the same type, though tending to show a higher clay fraction, are characteristic of large parts of the boulder-clay surface of East Anglia, Herts, and Essex, where, moreover, they are often associated with tracts of true brickearth. In regard to the boulder-clay soils in general certain distinctions must be made. In Suffolk, where the drift contains an appreciable element of Kimmeridge Clay, and also along the southern margins of the great sheet, in Essex and Herts, where the London Clay has been laid largely under contribution, the soils locally approximate to the true heavy

clay type. Over the remaining and larger part of the glacial area, this is not the case. While local variations of course occur, the soils are predominantly loamy in the sense here defined, and they are comparable in many essential respects with the other loamy soils we have noted. Finally we would wish to bring into the same general group of loamy soils, those which are developed upon the lower argillaceous portion of the Chalk formation. They extend over tracts of varying width at the foot of the Chalk escarpment, and the soils of the Upper Greensand bench, where this bench forms a notable feature, as in Sussex and Hampshire, are of not dissimilar type and may be grouped with them. In all cases the soils contain much more nearly equal proportions of the mineral grades, sand, silt and clay, than do the soils derived from the purer Upper and Middle Chalks. Their ease of working is attributable in no small degree to their lime content, and to this extent they differ from the other loamy soils with which we are grouping them, but from the standpoint of human utilization their affinity is undoubtedly with this group.

Space does not permit us to discuss in detail the other soil groups of Southeast England, but we may briefly note the main types of soil or vegetation regions which occur in juxtaposition with the loam terrains and thus build the complex soil mosaic that was presented to early man. The heavy clay areas are much more restricted than is commonly supposed. They are located on the London Clay in Middlesex, Essex and Surrey, though in the last named area and further west an appreciable lightening element of sand and silt occurs in the soils. Their greatest expanse is on the Weald Clay, where again there is a considerable local admixture of sand and areas of drift-covering. The Wadhurst Clay of the Rother valley provides another tract of heavy clay land. Contrasted with these regions, we have the heathland tracts on the coarser sands and sandy gravels, notably parts of the Lower Greensand, the Bagshot Beds, the Blackheath Beds, the glacial gravels, Pliocene Crags and the Blown Sands of the Breckland. On the Chalk areas we must distinguish the thin red and black soils of the true Downland areas from the heavily wooded and intractable areas of Clay-with-Flints. Finally we have the riverine and marine alluvium which has figured as a productive soil only late in the economic development of the region, having been largely marsh or water-covered during the earlier phases.

With the foregoing brief summary of the soil conditions of the area as a basis, we may attempt to justify the claim that it was the

loam-regions which figured most prominently as the nuclei of settlement and penetration during the earlier stages of peopling the country. Their pre-eminence in the agriculture of today as regions favouring arable farming cannot be questioned. We need to enquire rather at what date their favourable qualities were first recognized and turned to account. From this point of view Fox's map of ' massed ' Bronze Age antiquities provides interesting data. Accepting his reasonable assumption that the frequency of finds may be taken as an index of population, we note among the densely settled tracts the loam-region of the Sussex Levels, the ' Bargate ' region in the neighbourhood of Guildford and Godalming, the Southend loam-plateau—a significant coastal ' landing stage ' and the Norwich region. There is also the conspicuous tract of high find density which follows the Thames valley and the lower parts of the valleys of the Brent, Lea, Wandle, Medway and Stour. As we have noted, Fox advances good economic reasons for the occupation of the Thames valley floor ; but to these we would desire to add the important fact that the broad loam-covered terraces offered opportunities for agriculture not essentially inferior to those of the chalk lands. Of the original vegetation cover of the brickearths we know little or nothing ; but it is a reasonable surmise that they carried relatively light and easily cleared woodland diversified by some heathland country where the underlying gravels emerged. Our point, essentially, is that the Thames-side tract and its analogues in the tributary valleys were not merely regions of porous soils rendered tolerable by the attractions of trade, transit and fishing. Their extent, it is true, was less than that of the still favoured downlands, but otherwise they presented optimum conditions for clearing, cultivation and, be it added, for obtaining an adequate water-supply.

Certain other features of the Bronze Age map are worthy of note. Though the major congregations of evidence outside the Thames valley are on the chalk of Wessex and in the Breckland and contiguous tracts, among the latter we note what we may call the Icknield Zone (as far as the Hitchin Gap) which *inter alia* shares the loamy soil characters of the valley tracts. Moreover, the Essex boulder clay lands show evidence of considerable occupation. The most notable ' negative ' areas, where evidence is absent or scanty, are the larger part of the Chiltern plateau, the London Clay areas of Middlesex, Herts, and Essex, the sandy Bagshot plateau, the New Forest, the Weald Clay terrain west of the Arun, and the larger part of the Weald of Kent. These facts appear to indicate that the sandy areas—the

areas of porous soils *par excellence*, were not sought as such. Some of the Wealden heathlands were, as Fox remarks, ' islanded in forest ' and thus inaccessible—but not all of them were so placed. The Bagshot plateau abutted upon the Thames valley with no considerable intervening forest tract. It appears to be reasonable to claim that the truly sandy areas and especially those of upland or plateau character never attracted occupation during early times except during the curious and interesting Mesolithic phase recently studied by Clark.[3] It seems to us that with certain exceptions, such as the Breckland and the coastal Suffolk heaths, which are relatively low-lying and which enjoyed exceptional advantages of access, the sandy tracts were repellent rather than attractive. If, however, Fox is right in supposing that parts of them at least remained unoccupied because of superior attractions of other areas in a new agricultural phase, then we may maintain that to a large extent it was to the loam-terrains and not to the clay lands that population moved.

We may test the significance of the loam-areas further by reference to Iron Age distributions. The distribution of Hallstatt-La Tène I–II pottery in the area does not bear decisively on the point at issue, for the finds are relatively sparsely distributed and demonstrate little more than the continued occupation of certain of the chalk lands and the importance of the Thames valley and the Icknield Zone. But with the Belgic phase, recently so thoroughly studied by Hawkes and Dunning,[4] a number of relevant points come to light. The general distribution of pedestal-urns (excluding those of Roman date) immediately suggests the importance of (*a*) the Kent Lower Tertiary Zone and (*b*) the Essex and Herts boulder-clay lands. All the evidence combines to suggest that the earlier wave of Belgic peoples, entering by the Kentish angle, settled in great numbers on the belt of rich arable soils situated upon the brickearths and Thanet loams and on the lower portions of the chalk dip-slope where considerable relics of these formations survive and modify the character of the soil. There is no reason indeed to suppose that they were confined to this zone ; penetration through the Medway Gap is clearly indicated. Nevertheless it cannot be supposed that the upper part of the chalk dip-slope with its Clay-with-Flints cover was other than densely forested and this forest formed a natural boundary to the loam region. The oft-quoted

[3] *The Mesolithic Age in Britain.* (Cambridge Univ. Press, 1932).

[4] *Archaeological Journ.*, vol. 87 (1930).

observation of Caesar concerning the density of population and the ready availability of corn along his line of march is relevant here—and it is perhaps not too much to suggest that the line of Watling Street itself depended as much upon coincidence with a relatively narrow zone of favourable soils as on the possibility of bridge crossings.

As regards the slightly later phase of the Catuvellaunian dynasty, centred at St. Albans and afterwards at Colchester, it is clear that we are dealing with a drift land, not a clay land distribution. Hawkes and Dunning extend the limits of the Catuvellaunian territory southwards to the Thames, northwards into Northants, and on the evidence of coins, westwards to the Cherwell valley. That their ' sphere of influence ' extended over such an area is not to be gainsaid on the evidence, but that the whole of this tract showed even approximately equal density of settlement is inherently improbable. The main mass of the loamy boulder clay country terminates at a line drawn from Hertford to Hitchin. The area favourable to cultivation may have extended somewhat west of this over the loam-covered eastern end of the Chiltern plateau and in any case it must have been prolonged for some distance westward along the line of the Vale of St. Albans, which was entered by the ice sheet at its northeastern end. The most westerly record of a pedestal-urn from this district is from Abbots Langley on the northern margin of the Vale. To the south of the driftland tract stretched the London Clay forest, which was but little penetrated or settled even in Roman times. The rarity of pedestal-urns of pre-Claudian date in the Thames valley near London, suggests that the pre-Roman Belgic settlement did not extend appreciably into the Thames valley in spite of the break in the forest barrier offered by the Lea valley. On the north and west of the settled driftland area lay the accidented and heavily forested tract of the Chiltern plateau, which retained in some sense its ' barrier ' quality till Saxon times. It is in the light of these facts that we claim that the heart of the Belgic kingdom lay upon the boulder clay lands and that westward penetration was probably largely confined to the region of the Vale of St. Albans and the southwesterly continuation of the ' Icknield Zone ' beyond Hitchin. In this connexion again, we would venture to suggest a slight modification of the attractive thesis put forward by Fox. He comments upon the shift of the economic centre of Britain at this date from Wessex to East Anglia, and instances this as a phase in the taking over of the clay lands. But as we have seen, the region in question is not a true clay land nor does it extend into East Anglia. To the north of the lighter Essex boulder-clay

lies the heavier Kimmeridgic variant of Suffolk, a region much less tractable under axe and plough, and no doubt serving as a natural barrier against the earlier established Celtic Iceni. It was to Essex and east Herts—a true natural region of ready clearance and cultivation, naturally invested by forest,—that the economic centre moved ; and the accessibility of the southern boundary of this region to the crossing place of the Thames near London has a clear bearing on the Roman initiation of the latter city. The historical significance of the Essex drift lands in Roman times is briefly discussed elsewhere,[5] in collaboration with Mr D. J. Smetham, and we shall not here pursue the theme. We may recall, however, the important geographical fact that the loam-areas settled by the Belgae in Kent and Essex respectively and inherited by the Romans, converged upon the London crossing from the coast and together constitute one of the major significant elements in the siting of London.*

To what extent the true clay lands were cleared during Roman-British times it is difficult to say. We here touch the fringes of the interesting topic recently discussed by Collingwood,[6] Randall[7], and Wheeler[8]—*viz.* the general nature of the agriculture and population of Roman Britain. Collingwood has argued that the total population of this phase was small and that its distribution was of upland or ' prehistoric ' type. He supposes that agriculture was still in essence primitive—not greatly in advance of subsistence farming—and that there was a general reluctance to incur the capital expenditure involved in the clearance of low-lying forested country. A number of considerations have been urged against these views—and among the most cogent is that based upon the well-attested exports of corn about A.D. 360. On the whole it appears to us that Collingwood's case for an essentially primitive agriculture is difficult to maintain, but in the discussion which

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[5] *Geog. Journ.* 1931, LXXVIII, 243.

* It may be noted that ' Belgic frontier ' defined by Wheeler (ANTIQUITY 1932, VI, 133 ff) coincides remarkably closely with one of the soil-boundaries shown on the accompanying map (p. 301); to the north lies the Chiltern plateau, while to the south is the gravel and loam terrain of the Vale of St. Albans. The tract of ' pre-historic forest ' shown on Wheeler's map is presumably based upon the distribution of the boulder-clay as shown on the geological map. In actual fact the boulder-clay is partly replaced by and almost completely covered by brickearth in this area, which must thus have been favourable to arable cultivation. The heavy forest land probably came on suddenly north of the ' frontier ', which is a natural ecological boundary.

[6] ANTIQUITY, 1929, III, 261. [7] ANTIQUITY, 1930, IV, 80. [8] *Ibid.* p. 91.

his ideas evoked, the facts of distribution as shown on the Ordnance Survey map of Roman Britain, from which he started as a basis, have been rather lost sight of. It therefore seems worth recalling that whatever the productivity of agriculture during this phase, and whatever improvements were introduced by the Romans, the facts at present known do not suggest any considerable attack on the true forested clay lands. The main 'negative' areas on the Roman map are quite clearly and definitely as follows : the greater part of the Chiltern and Bagshot plateaux, the London Clay areas of Middlesex and Essex, the Central Weald and the heavier boulder clay lands lying north of Stane Street in Essex. This distribution is virtually identical with that for earlier periods and signifies an avoidance of clay country, and of tracts of sandy upland. There is little doubt in our view, however, that the farmed country was very much more productive than Collingwood supposes, for to the facts adduced by Randall we may add this salient geographical consideration—that the lands farmed by the Romans in Essex, Herts, and Kent are among the most naturally productive in the region and are still indeed notably preponderant as areas of arable farming. The soils of these regions belonged neither to the lighter nor heavier classes as commonly defined, but to the vitally important intermediate group we have sought to distinguish. Herein lies a reasonable explanation of the combination of high productivity with the general absence of areal expansion.

Into the long and obscure history of the Saxon penetration and settlement of the area we must forbear to enter here. It presents innumerable points of interest in connexion with soil geography and we hope to treat of these elsewhere. For present purposes it must suffice to note that the later part of the Saxon period appears to have witnessed the first real inroad on the clay forest lands. Such indeed is Fox's conclusion and we may urge in further support the evidence of place-names. Those believed to be of later date certainly congregate markedly on some of the clay lands, as in southern Essex.[9] On the other hand the place-name evidence as a whole does not lend support to the idea that expansion into the woodlands was delayed altogether until after the pagan phase. Fox[10] interprets Leeds' map of cemeteries as indicating that hardly any progress was made in pagan times—but Leeds himself, contrasting the narrow localization of the cemeteries in

[9] Wooldridge and Smetham. *Geog. Journ.*, 1931, LXXVIII, 260.

[10] *The Personality of Britain*, p. 71.

East Anglia with wide distribution of Anglo-Saxon names (by no means wholly of later type)—was led to remark that 'it demonstrates how soon the inhabitants must have ceased to be influenced by this former selectiveness '[11]. At any rate we may reasonably conclude that the surviving tracts of boulder-clay woodland—if not the clay forests farther south—were appreciably cleared in relatively early stages of the Anglo-Saxon settlement. In the general picture of Saxon times the loam-terrains figure as the regional nuclei of the several kingdoms, much as they did during the late Celtic phase, and we may note further that in this stage we witness the first considerable settlement of the loamy Lower Greensand tracts in east Kent and west Sussex, which become, as it were, secondary nuclei of the Kentish and South-Saxon kingdoms, pendent respectively upon the Lower Tertiary loam belt and the ' Sussex Levels '.

In conclusion we may remark that the theme here briefly presented is capable of, and indeed calls for, a more extended treatment which we hope to devote to it in due course. What we have termed the loam-terrains constitute an essential key to the study of the later phases in the historical geography of the area and even in the present phase of ' metropolitan ' geography they remain agriculturally distinct. In the foregoing paragraphs we have sought to trace their significance in the archaeological field only and we submit that they stand out as areas of ' primary settlement ' first entered upon in the Bronze Age, more extensively taken up in the Belgic phase of late Iron Age times, inherited with but little extension or areal modification by the Romans and finally consolidated and extended as regional nuclei by the Nordic invaders, prior to the settlement of the latter within the areas of the heavy clays. The treatment here attempted emphasizes the essential similarity in soil-character of regions which, judged by examination of a geological map, would appear entirely dissimilar. If the group of loamy soils is included within the major division of Fox's porous soils, the main lines of his generalizations appear to be abundantly supported by the facts. As we have indicated, the rather loose colloquial soil terminology, combined with certain imperfections in geological nomenclature, are apt to conceal the existence of the loamy-soil group, placing some of its members with the true clays, to which they bear little resemblance and linking others with the coarser sands and gravels, from which again the

[11] E. T. Leeds, *The Archaeology of the Anglo-Saxon Settlements*, p. 69.

differences are radical. If independent status is given to this soil-group, the study of the progress of early settlement is considerably clarified. The very partially true connotation of the term ' valleyward movement ' commented upon by Fox and by Wheeler[12] is also rendered clearer. In Southeast England it was to plains and low plateaux of a definite soil constitution as well as to valley floors that Early Man progressively moved.

[12] ANTIQUITY, 1930, IV, 92.

Ancient Mexico

by J. Leslie Mitchell

ANCIENT Mexico in the popular mind remains synonymous with Montezuma, treasure, and the late Rider Haggard. Even those who have passed beyond the naïveties of this horizon-culture have seldom progressed further than Prescott, and still envisage his genteel Aztecs as the *fons et origo* of all things Mexican.

The latter view, so far as the Americanist is concerned, is roughly sixty years and three research stages out of date. By 1899 Mr W. J. Payne was thus summing up the common opinion of *his* generation of historians, who had arrived at the second stage :—' To the Toltecs, among the early peoples of the New World, the first place no less indisputably belongs than to the Greeks in the Old '.[1]

The Aztecs had been deposed. Backgrounding his Toltecs, however, rose even then the uneasy ghosts of a people more remote in time and advanced in culture ; and with these, Canute-like, Mr Payne dealt sternly :—' An opinion has even been entertained that the Maya possessed an indigenous culture, independent of, though parallel to, that of the Nahuatlaca [Toltecs], to which the latter was substantially indebted for some of its principal features. We are compelled to regard this view as erroneous '.

Nevertheless, the Mayan ghosts refused to be laid. From the point of view of antiquity, the Toltecs wilt into insignificance in the light cast upon the antique American scene from that cumbrous lamp of calendrical attainment which was the great glory of the Maya Old Empire. It is now generally accepted that such semi-civilizations as rose to being in Ancient Mexico were heritors of the culture of Central America ; the Toltec is seen as no originator, but one gifted with a mere barbarian imitativeness.

The irreverent might speculate that the process is unending, and prophecy that in another twenty years the Maya themselves may stand

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[1] *History of the New World called America*, 1899.

convicted as the merest *nouveaux riches*. Nor is either the irreverence or the speculation unwarranted. That apart, and as the following brief sketch of their elements will seek to show, a single origin is as little traceable in the diversity of Mexico's culture as—in the confused obscurity of their history—is a single ancestor for its tenebrous tribes.

In the 5th or 6th Christian centuries the Maya Old Empire of Central America was at its apogee.[2] Territorially it extended northwards almost as far as the Tehuantepec neck ; culturally, its reach was undoubtedly much further. The calculiform glyphic inscriptions of its bush-embedded cities supply us with approximate datings. But in Mexico proper, beyond that Tehuantepecan isthmus, there are no such reliable aids. Cultural comparisons and the careful dissection of legend must suffice until the Aztec manuscripts open in the middle of the 13th century. And both archaic cultural remains and archaic legends lie, actually or metaphorically, in strata disrupted again and again, by this or that upheaval, to fantastic unintelligibility.

To make brief and arbitrary selection, however, the Mexico contemporaneous with the Old Empire's apogee appears still in the culture of the ' Archaic Horizon'. Dotting the curvature of the Gulf and the length and breadth of the main plateau were occasional settled sites. Maize and the aloe were cultivated around these sites—maize cultivation had already extended as far northwards as the Panuco Valley. A crude pottery was manufactured, some archaic experimentings in textiles prove the domestication of the cotton plant ; and there is an almost complete absence of signs of metal-working. It was still a land of the palaeolithic nomad and hunter, the settled site the exception rather than the rule.

This ' Horizon Culture ' is ascribed (*a*) to no definitive inventive focus, and to have evolved and progressed through some 2000 years or more ; (*b*) to an origin completely intrusive, an alien importation from Central America, barely ante-dating the first Christian millennium.

Selectivity balks between these diametrically-opposed conclusions and turns to the ' Archaic Horizon ' peoples themselves. Of these, settled or nomadic, enjoying or disregarding the archaic culture, two can be identified definitely, three or four tentatively. In the vicinity of modern Vera Cruz were the Totonacâ, whose speech some thousand years later was discovered to have Mayance affinities. Further north along the Gulf, in Huaxtlan, the Tamarind Land, were the Huaxtecâ,

[2] See *The End of the Maya Old Empire*, ANTIQUITY, September 1930.

a people possessing close ethnical affinities with the Maya. (It is possible that all the ' autochthonous autochthones ' from the Panuco Valley to Copan were once Maya or proto-Maya, though none of them originators of the Old Empire civilization). Still remoter in the north were the

Mazahuâ and Mixe, with unidentified origins and affinities. The dim folk of the central plateau and the Pacific slope are nameless. In Oaxaca the racial groupings of Zapotec and Mixtec had perhaps already differentiated. All were peoples on the verge of history, and on that verge, for the next thousand years or so, they remained.

About the year 500, disturbing the ancient serenity of centuries, the Otomi appear to have descended on the central plateau from the mists and mountains of the north. Hunters to whom agricultural method had penetrated in the unknown land of their origin, they pushed south in search of more fertile tracts, probably warring with the ancient inhabitants and probably carrying the first seeds of organized warfare into Mexico.

In later days, when the possession of Nahuatl blood in Mexico was as important as Norman in England, these Otomi were to claim kinship with the Toltecs and Aztecs. But they ' appear by their monosyllabic language and some other peculiarities to have been isolated ethnically '[3] and to have preceded all other invaders. If their placing here is correct, they were but the forerunners of a far more important migration. From the remote north, after lengthy journeyings since leaving that unidentified Huehuetlapallan—the Great Colourful Place—descended that social class, cluster of cultural excellence, or definite tribal group to which with some reason were ascribed most of the subsequent glories of Mexico ; these were the Toltecs, the ' Master-Builders '.

Of the various dates ascribed to their arrival at the site of their ultimate capital, Tollan, A.D. 770 is the more probable. But they did not attain to that capital immediately on entering Mexico. Under their reputed leader, Great Hand (Huemactzin), they had journeyed down the Pacific coast for many years. Some of these journeyings had been by sea. Definitely within the borders of modern Mexico they had first halted and built Tlachicatzin—identified with a dozen partially-excavated sites, including Colima on the Pacific slopes. Mysteriously evicted from that settlement, they took to their wanderings again, apparently wheeled eastwards across the central plateau, and founded Tollantzinco. Fifty or a hundred years afterwards they penetrated northwards up into the heart of what was then Otomi territory, and in a place renowned for the basket-making qualities of its reeds (*tollin*) laid the foundations of that city that long haunted the memories of the Mexican tribes.

The Toltecs were ' men of peace ', noteworthy cultivators and architects. White-robed, portly, with hair cut short to the occiput, their feet shod in henequen-fibre sandals,[4] the elders and leaders in each settlement superintended the plantation-cultivation of maize, pulse, pepper,

[3] W. J. McGee and C. Thomas, *Prehistoric North America*, 1905.

[4] *Costumes of America*, 1780.

cotton, and the *pulque* aloe. They used stone tools, but also ' wrought gold and silver and copper into such shapes as they pleased '[5] ; they built at Tollan great *storeyed* buildings, temples and palaces and pyramids. ' They had necromancers, sorcerers, magicians, astronomers, poets, philosophers, and orators ; they knew everything, good and bad '[6], according to one venerable enthusiast. They worshipped at first one God—in his solar manifestation. Later came the rise of the ' young god ', Tezcatlipoca, and with his advent human sacrifice. Their fame spread north and south. A divine being, Quetzalcohuatl, descended to earth, revived ancient ways of life and brought new secrets of power. It was the Golden Age of Anahuac.

Its foster-child, before the unpleasing advent of the scientific Americanist, was at least an age of golden romancings. Yet modern excavation and research, though they dim the picture's colours, do not deny the outlines. These ' men of peace ' appear to have called themselves Toltecs no more than the Hellenes called themselves Greeks. They rejoiced in the designation Aculhuaquê—' Strong Men '. And the ' young god ', Tezcatlipoca, was the horrendous war-deity whom they transmitted to their successors, the Aztecs. These are neither the characteristics nor the gods of a peaceful people. But it may be that the immigrants were in small numbers, subduing the native inhabitants by force of military superiority, and inaugurating thereafter a long era of peace till the pressure of fresh northwards immigrants revived war-cult and war-god.

Modern research generally designates them a Stone Age people, to be judged by Stone Age standards. But it is doubtful if the term—in America, at least, where chipped tools, polished tools, copper tools, and the so-called ' accidental bronzes ' were all used indifferently in the same periods in the same areas—has any just meaning. Chalcolithic —those who employed stone when metal was not available—would appear to approximate more closely to the facts of legend and excavation.

Of their storeyed buildings, palaces and temples, no trace now exists in Mexico proper, though the pyramids of Cholula and Teotihuacan still stand. In Yucatan, however, a late refugee-colony, most of the buildings in the city of Chichen-itza are remarkable witnesses

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[5] *Histoire Générale des choses de la Nouvelle Espagne*, 1880. (French re-edition of the history of Bernardino de Sahagun).

[6] C.-É. Brasseur de Bourbourg. *Histoire des nations civilisées du Mexique et de l'Amérique Centrale durant les siècles antérieurs à Christophe Colomb*, 1857–1859.

to the reality of the Toltec builder-genius. They brought new things into New World architecture—the pilaster, the atlantean support, façade decoration in the form of intricate formal mask panels, the ball court. It was an art as dull in imaginative concept as it was energetic in achievement—the art, one would judge, of an uninventive people.

So with their sculpture—either of the human figure, in low relief, at Chichen-itza, or the giant sculptured mosaics that still obtrude from the pyramidal bases at Teotihuacan. Technique is as adequate as artistic flair is absent. In pottery, among a mass of unremarkable household utensils, they made beautiful vases, slip-painted in the primary colours.

' Necromancers, sorcerers, and magicians ' they may well have had ; and no doubt even the difficulties of an agglutinative language were no bar to oratory. Of their astronomy we have no direct knowledge. It was probably as inferior to that of the Old Empire Maya as their calendar—a borrowed product—was inferior.

In the worship of a single solar-god (probably in the main an agricultural deity) whose subsequent lustre was somewhat dimmed by the rise of a war-god, the Toltecs appear to pay remarkable tribute to the theories of Dr W. J. Perry,[7] and hardly to merit the severe and unconsciously humorous strictures of a former generation of pseudo-savants—that ' animalism seems to circumscribe their whole religious bent '.[8]

To summarize briefly the views of four modern schools of historians, the entire Toltecan semi-civilization was (*a*) brought by the Toltecs from their original home, Huehuetlapallan ; (*b*) evolved in the districts surrounding Tollan ; (*c*) derived from the Maya Old Empire in Central America ; (*d*) imported from across the Pacific.

The first school lacks a definite geographical focus. If in British Columbia or in California the Great Colourful Place is to be identified—as it may well be in either—the lack in these regions of the most obtrusive elements in Toltec culture is remarkable. If in the Mound-Builder region of the Mississippi, then the Toltecs, fully equipped as to culture, achieved the remarkable feat of deserting their remote home and migrating into Mexico before the radiations from their own Mexican cultural adventure had made possible the growth and existence of the

[7] W. J. Perry, *The Origin of Magic and Religion*, 1923.

[8] Thomas J. Diven, *Aztecs and Mayas*, 1909.

Mound-Builder communities. One may suspect that even the Abbé Brasseur's necromancers would have balked at this miracle.

The second theory, championed by those who see all civilizations as separate ferments in hermetically-sealed containers, has now few supporters. Least of all had it support among the Toltecs themselves, who consistently referred their advancement to the work of alien culture-bringers.

The third hypothesis is based on the greater antiquity of the Maya Old Empire, and the indisputable certainty that the Toltecs absorbed various cultural elements from the great Central Americans. The fourth, championed in various fashions and in various ages by the Spanish conquerors, Humboldt, and the followers of Dr Elliot Smith, deduces a direct cultural relationship between Eastern Asia and Mexico.[9]

Although the mass of conservative opinion undoubtedly gravitates to support of the third school, that opinion has all too frequently been formed from the study of exclusively American subjects. M. Gagnon's remark :—' Je dirai même que l'archéologue que fait de l'Amérique l'unique champs de ses études, pourra certainement nous donner des détails du plus haut intérêt sur les civilizations indigènes, mais il n'aura pas qualité pour nous en dire l'origine s'il ne peut en même temps comparer ces civilizations avec les civilizations orientales '[10] is more applicable than ever to any consideration of the Toltecs' schooling, if not their ancestry.

To test the claims to paternity of either Mayan or Asiatic it is necessary to move southward a moment from the scene of the Toltecs' hasting activity in rearing Tollan.

Before any overwhelmingly effective drift of culture from the collapse of the Mayan Old Empire could have ebbed up into Mexico it must, presuming a land route, have passed through the Isthmus of Tehuantepec. Inside the Mexican region, a little north of the Isthmus, lie the ruins of Mitla and Monte Alban. Their construction is consistently ascribed to the tribes in occupation of the region at the time of the coming of the Spaniards. These were the Zapotecs and Mixtecs. No certain datings can be applied to these two test-sites. And this is important. For if, in the view of the Mayoid school, their remote antiquity is assumed, then they were built by the immigrant

[9] See maps in G. Elliot Smith's *Human History*, 1930.

[10] Alphonse Gagnon, *L'Amérique Pré-Colombienne*, 1908.

wash of culture from the Central American débâcle ; if dated late in pre-Columbian history, it was a reflex flow of culture from the Mayan-inspired Toltecs.

Both sites are show places of the ancient American scene. Monte Alban, in the process of excavation, appears to be yielding such stores of ' treasure ' as are likely to retrieve the reputation of Mexico in the eyes of the romantic novelist ; Mitla has long been as fruitful of popular theorizing and even more barren of satisfactory evidence than Tiawanako of the Peruvian Andes. Amid heaps of rubble and great vegetal mounds stand its much-discussed ' palace-complex '—quadrangular buildings, the walls reared with extraordinary skill and symmetry. For ornamentation these walls are severely patterned in grecques and the like variations on world-known geometric elements. World-known—but not elsewhere in America north of Panama. ' The sculptural decoration of the buildings at Mitla is unique in Central America '.[11]

Humboldt, in whose day Mitla appears in a much better state of repair, noted the palace's ' arabesques ', its caryatids, its general appearance of having ' striking analogies to Lower Italy '.[12] But he added, with his usual caution, that analogies of this kind are very limited proof of the ancient communication of nations. Charnay spoke of it as ' a bewildering maze of courts and buildings, with facings ornamented with mosaics in relief, of the purest design ; but under its projections are found traces of paintings, wholly primitive in style, in which the right line is not even respected '.[13]

Charnay's abominable painters were undoubtedly Toltecs, and Toltec art therefore a later superimposition. And there is no trace of Mayan datings ; no characteristic Mayan sculptures (the ' grecque ' is as un-Mayan as it well might be) ; the palace columns are quite definitely columns, not carved wall-section roof-supports as in the Maya area.

The claim that Mitla stands as the ' halfway house ' between Mayan and Toltec art is therefore proved to have little foundation. Other origins must be sought for the basic elements of Toltec culture, as they must be sought for Zapotecan.

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[11] T. A. Joyce, *Maya and Mexican Art*, 1927.

[12] Alexander von Humboldt, *Vues des Cordillères et monumens des peuples indigènes de l'Amérique*, 1810.

[13] Désiré Charnay, *Les Anciennes Villes du Nouveau Monde*, 1885.

The question returns to the battle-fields of an earlier controversy—' local development ' as against extra-American inheritance. As has been stated, the only survivals of Toltec architecture in Mexico proper are pyramidal. Now, Americanists have insisted again and again, and with justice, that the designation ' pyramid ', associated in the popular mind with the monuments of the Nile and Giza, is in this connexion misleading. To quote Mr Joyce (op. cit.), ' the Egyptian pyramid was itself *the* building. The American pyramid was an accessory—a platform on which to erect a building or an altar '. Moreover, it is insisted, the American pyramid, built in terraces, had but faint resemblance even in outline with the Nilotic monuments, and was never chambered, but a solid structure.

Humboldt records, however, that in cutting the road from Pueblo to Mexico a large portion of the Cholula pyramid was cut through and detached. A square chamber was laid bare, built of stone slabs and sustained by beams of cypress. Two skeletons reposed there, some basalt statuettes, and a number of glazed pieces of pottery. To this heterodox conduct on the part of the Cholula pyramid-builders may be added the testimony that, just as the Toltec pyramids have little outward resemblance to the Egyptian, their prototypes had certainly an antique existence outside America. Layard remarks :—' It is highly probable one uniform system of building was adopted in the East for sacred purposes, and that these ascending and receding platforms formed the general type of the Chaldean and Assyrian [pyramid] temples '.[14]

Toltec and Zapotec, in their different areas, were assiduous beachcombers of a great flotsam and jetsam of cultural custom—Egyptian pyramid-burial, Babylonian pyramid-form, geometric decoration, mask panel decoration, and what not—which washed against the Pacific shores at different times. Or the apparent resemblances can be ascribed to the ' narrow and limited bournes within which the human mind and the human hand can function '.[15] To the present writer the ' autochthonists ' appear to ascribe to the human mind a narrowness and an assiduous inventive silliness entirely incompatible one with the other.

Intimately connected with the question of local development or alien importation is the personality of the Toltecan Quetzalcohuatl. In a paper as brief as this, it is impossible to attempt the pursuit, each

[14] *Discoveries among the Ruins of Nineveh and Babylon*, 1865.

[15] P. A. Means, *Ancient Civilizations of the Andes*, 1931.

to its lair, of the innumerable theories evoked by the Quetzalcohuatl or Quetzalcohuatls. As indicated elsewhere[16] it is probable that there were at least three : (*a*) the sun-god, in one of his aspects ; (*b*) the missionary-reformer-zealot who arrived in Toltec territory in the 9th or 10th century, laboured, died or departed, and was deified and identified with the sun-god ; and (*c*) the very human Topiltzin Axcitl, who, at the fall of Tollan, led the dispersed Toltec tribes southward and invaded Yucatan. In recent times Mr Lewis Spence[17] and others[18] have indicated the main lines of evidence for identifying Quetzalcohuatl ' (b) ' with either the Buddha himself or some lost Buddhist missionary.

However enhanced by natural development from within or unnatural interference from without, Toltec culture appears to have reached its apogee about the end of the 9th century. Thenceforth it speedily declined. The Toltec city-states were threatened from the north with a constant threat : the tribes of the Chichemacâ.

Finally, in 980, these Chichemacâ, skin-clad nomadic Red Indians from North America, fell upon Tollan, captured it, killed the ' king ' of the great Toltec capital, and drove out the greater part of the inhabitants. Cholula and Teotihuacan appear to have been only partially abandoned, for around these centres small groups of Toltec ' guilds ', sheltering under fear or respect of their ancient name, remained as so many quaking islands of civilization amid the hungry seas of Chichemacan barbarism.

There ensued some three hundred years of Amerindian history comparable to that which descended on the lands of the Mediterranean with the fall of Rome. New settlings and groupings gradually came into being. The pre-Toltec Otomi emerged to some prominence. The Chichemacâ disappeared from the scene, or, more probably, resolved into that congerie of barbarian tribes which began to settle in largest numbers round the valley lakes in the centre of the Mexican plateau.

This site had been neglected by the Toltecs, according to the ancient chroniclers, as unfit for human habitation. Their savage conquerors were less liable to aesthetic deterrents. The narrow valley, a broken oval about 60 miles long by 30 broad, was separated from the rest of the plateau by an irregular girdle of mountains. These

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[16] ANTIQUITY, December 1930.

[17] ' Antiquity of Man in America ', *Quarterly Review*, 1923.

[18] J. Leslie Mitchell, ' The Buddha of America ', *Cornhill Magazine*, 1932.

mountains were crossed by easy passes in several directions ; nevertheless, they definitely shut off the outer world. Large portions of the lake-shore were marshy, but here and there were considerable tracts of alluvial soil. The main inducement for settlers was the fact that the Tezcuco lake secreted a white saline deposit : *tequixquitl*, used as a condiment and game preservative. This could be exported for cotton and the like from the outside world. The barbarians poured into the valley, and, abandoning the rest of the plateau, Mexican history followed at their heels.

Amid a welter of names, tribal and heroic, some dozen lacustrine settlements, built of adobes or stone, had presently come to being. Crumbs of culture were absorbed from Otomi settled on Lake Tezcuco, more than crumbs from a stray migration of uprooted Toltecs which drifted into the valley and founded the pueblo of Colhuacan. Autochthonous aliens eliminated or incorporated, two main rival groupings dominated the valley—that of the Tecpanec Confederacy and that which centred round Tezcuco.

Then it was that a fresh tribe—almost, it would seem a pariah tribe—crossed the mountains and settled amid the marshes. This was the Aztecâ or Crane People, one of the most remarkable peoples in American history. Skin-clad, like the earlier Chichemacâ, the codices compiled by their artist-priests in the days of their subsequent dominance depict them in stage after stage of an heroic march, subduing cotton-clad enemies, wielders of the obsidian-edged club, with showers of arrows from majestic bows.[19] But there survived a less heroic and more probable account of their advent in the valley. Outlaws and pariahs, they were at first raided and despoiled by their neighbours ; in 1314 definitely enslaved by the nearby Tecpanecs. But history, in its three hundred years of residence in the valley, had wearied of both Tecpanec and Tezcucan and in the light of the Aztecs' ferocity and energy, displayed even in enslavement, marked them for its own.

Early in the 15th century the Tezcucan paramount chief, Ixtlilxochitl, died. The Tecpanecs under Maxtla promptly invaded Tezcuco, driving into exile the heir-apparent, Nezahualcoyotl. It was the moment of the Aztecs. Allied with the exiled Tezcucan, they met and defeated Maxtla's legions, and ended the Tecpanec confederacy.

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[19] *The Codex Mendoza*, Bodleian Library, Oxford.

In its place was established a fresh dominance—the league of Aztecan Tenochtitlan, Tezcuco, and dim and negligible Tlacopan.

From the first Tenochtitlan was the leading member. Tlacopan is hardly heard of again. Under its restored Nezahualcoyotl, the David of Mexico, Tezcuco knew a brief Indian Summer of prosperity. Both as poet and statesman Nezahualcoyotl ranks as the most remarkable Amerindian in history. His religious utterances, indeed, suggest a recrudescence of the Quetzalcohuatl worship in its original Toltecan purity—or the incursion into Mexico of fresh teachings from that mysterious and much-denied Outside which was at the moment supplying it with the game *patolli*, with an unevolved skill in copper-working, with a first acquaintance with silver. Even so, as a mere inheritor of alien sentiments and ideas the Hungry Coyote may be said to have shed the last bright light of Mexican genius.

For there was little of genius in the rule of the ever-ascendant Aztec. Under Izcohuatl Tenochtitlan consolidated its power in the valley ; under his nephew, the first Moctezhuoma, it extended its conquests far into the rest of Mexico, reaching at last in direct lines of tributary villages on one side to the Pacific, on the other to the Gulf at Vera Cruz. These conquests in no sense constituted or resulted in an empire, far less a kingdom. Tenochtitlan was merely a focal maw into which tribute streamed unendingly, wrung from unwilling tribes by the Aztec harmosts and their warriors. Bestriding the lakes, the Aztec capital rose into such city as dimmed the glories of even legendary Tollan. Bernal Diaz[20] was to stand astounded at sight of its floating gardens, its stone-built causeways, its palaces—' how well built they were, of beautiful stonework and cedar woods and the woods of other fair-scented trees ; with great rooms and courts, wonderful to behold, covered with awnings of cotton cloth '.

It was the final efflorescence of Mexican art and culture, their elements drawn from so many sources. The actual Aztecan contribution appears to have been negligible. Their craftsmen were sedulous imitators of the work of Otomi, Toltec, Tezcucan. Their sculptures have a hard, bright, flickering-eyed unease ; a floriferation of stale, ferocious symbolism rises gaudily from the pages of even their finest pictograph codex[21]. The human skull,—represented in rock-crystal, actual specimens delicately mosaiced, or portrayed unendingly

[20] Bernal Diaz del Castillo, *La Conquista de Nueva Espana.*

[21] *The Codex Féjerváry-Mayer*, Liverpool Museum.

on parchment and pottery—obsessed their artists. Their calendar was an uninspired variant of the debased Mayan calendar prevalent in the America of their times.

No student of the elements of Mexican culture can long evade the conclusion that many of its final manifestations were aberrant from the norm of human sanity. Imitative, uncreative, size and quantity were Aztec passions. In their hands the old agricultural religion became a thing of terror. From being a seasonal rite, human sacrifice became a daily one. Thousands of victims, captives and slaves, were slaughtered yearly in Tenochtitlan and their dismembered bodies cooked and devoured at ceremonial cannibal banquets. By the time of the arrival of the Spaniards the taste for human flesh, at least among the man-eating ruling classes, had sharpened to such pitch that the excuse of religious necessity was almost completely dispensed with, and slaves, kept in cages, were fattened on maize for the table. This state of affairs—long disregarded or escaping the notice of the more genteel commentator of other days—might in the course of a few centuries have produced biological and cultural consequences that would have substantially enlarged the scope of this sketch.

History, however, had wearied quickly of the Aztecs also. Within fifty years of the death of Nezahualcoyotl, who sang how ' the things of yesterday are no more today, and the things of today shall cease, perhaps, on the morrow ' Cortes was riding his charger across the smouldering ruins of Tenochtitlan.

A Greek Settlement in Thrace

by Stanley Casson

In 1930, during the course of a survey of the coastal region of Eastern Macedonia and its immediate hinterland, I was able to make detailed observations upon a small site which I had previously visited in 1925.[1] Since my first visit the site has been seriously damaged and it has become a matter of some urgency to publish all available material concerning it before the site as a whole has been completely destroyed. Unfortunately the full control of ancient sites in Greece is not so effective in the remoter Macedonian provinces as in Old Greece, and much damage is done to them by the large increase of inhabited areas made necessary by the vast influx of refugees from Thrace and Anatolia in 1922.

The site here discussed is that of an exceedingly small city. It has an importance far beyond its size in that it contains in a microcosm, as it were, all the essential elements of a Greek city-state without being in itself more than a mere diminutive settlement founded, like the Samothracian τείχη, for the purposes of trade with the barbarous hinterland, and, in this case, for the particular purpose of tapping the gold-bearing regions of Pangaeum. This little city perhaps served the same purpose as did St. Michael's Mount in Cornwall as an intermediary between alien shippers and local miners, though there is here the difference that the shippers themselves settled and fortified the place of barter. Though known to local antiquaries, it has not previously been noticed by any other traveller in Macedonia. It lies some three kilometres due west of Kavalla, on a miniature promontory, which forms the western arm of the wide Bay of Kavalla itself, and the settlement on the promontory directly faced the Hellenic city that once stood on the site of Turkish Kavalla, that is to say of the older part of the town.

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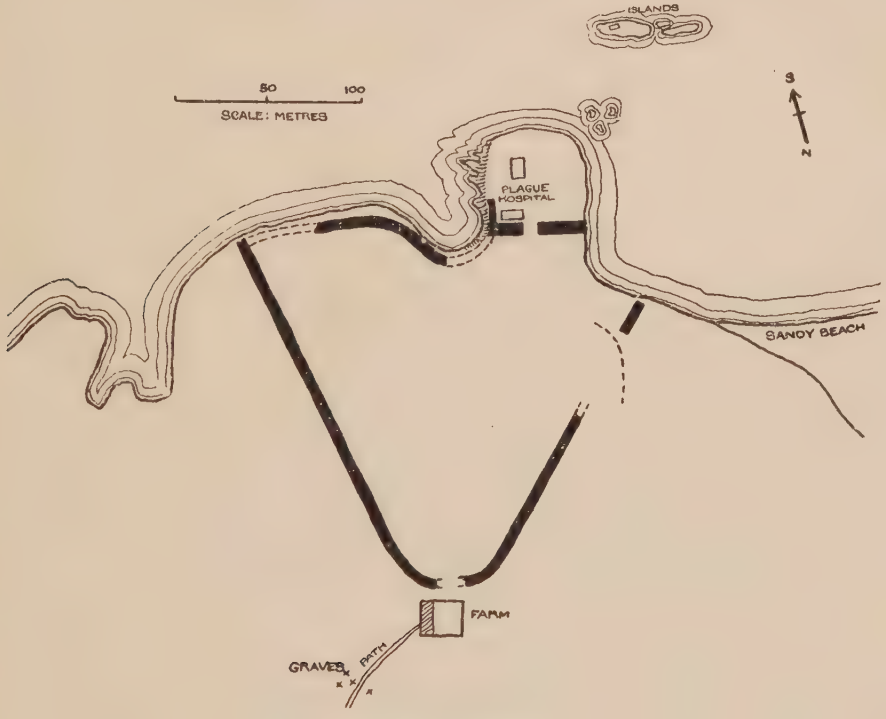
[1] *Macedonia, Thrace and Illyria* (1926), p. 92, n. 5.

The settlement is situated near a *chiftlik* known as Kalamitsa which consists of a small farm and domain. I find that some of the residents of the *chiftlik* call the place Kalamon. One local antiquary[2] believes that the *chiftlik* is on a Byzantine site called Kalamou after the Παναγία τῆς Καλαμοῦς, and thinks that the inhabitants later migrated to Xanthi, a little further east, where they founded the monastery Τῆς Καλαμιωτίσσης. However this may be, the Hellenic site is some little distance from the



PLAN OF SETTLEMENT

chiftlik, and has never been encroached upon by agricultural land of any kind. It remains, or at least remained until 1925, an ancient site unbuilt on after the Greek period, untilled, and undisturbed except at one place, which will be referred to later.

When I visited the site in 1930 I found that the main cross-wall (see plan) across the narrow point of the promontory had been almost

[2] Κ. Σκάλτσας : Ἱστορία τῆς Καβάλλας, 1930, p. 13.

completely destroyed during the building of a plague hospital. Fortunately I still had my notes made on the previous visit and so am able to describe the site in its undamaged condition. The only other serious damage is at the point where the eastern long wall reached the sea. Here in 1916 the Bulgarian military authorities constructed a concrete fort of great strength for coast defence against the Allied fleet, and in the process completely removed a section of the main town wall. Notwithstanding, only a fraction of the main system has vanished and the recent destruction near the plague hospital concerns only a few yards —though the best preserved portion—of the whole wall.

The plan of this settlement is roughly that of an isosceles triangle. The western wall starts from the west side of the subsidiary promontory and runs at an angle towards the highest part of the cliff. Here it meets the eastern wall, which descends again to the sea. Between the ends of the two walls runs the base of the triangle as a sea-wall, cutting straight across the subsidiary promontory. I suspect that the apex of the triangle ended in a strong gate-tower. But, unfortunately, no trace of this can be found and in all probability it was demolished during the construction, about two hundred years ago, of the Turkish farmhouse adjoining. The most remarkable fact is that there seems to have been no land-gate in the two sides. Probably there was one at the apex. But there still survives a splendid gateway in the stretch of wall that cuts off the subsidiary promontory. It was this gateway and the wall to the west of it that I saw so well preserved in 1925, standing some nine courses high, with one very large gatepost still in place. Now almost the whole of the west side has disappeared.

In plan this miniature city is a replica both of the Philippi of Greek times and of Hellenic Thasos. For the walls of Philippi[3] run up the hillside and meet in a tower at the top. They are of almost equal length, and the base of the triangle runs along the level ground that today lies between the Drama–Kavalla road and the rocky foot of the hill. The surviving Hellenic walls of Philippi are built without mortar, of squared and well-masoned limestone blocks in the Greek style of the 4th century. Possibly this triangular plan was characteristic of Thracian cities. The Kalamitsa walls, however, are not ashlar and but little masoned, but are of granite lightly trimmed and sometimes of natural blocks. For the granite beds hereabouts

[3] Heuzey, *Mission archéologique de Macédoine*, plan A.

can be easily quarried into good lengths, without much difficulty : the beds are laid horizontally and the stone is easily detached.

The width of the walls at Kalamitsa is a uniform 2.10 metres. The height naturally varies, but the sea-wall at a point about the centre of the base of the triangle is 2 metres in height, with four good courses. Here there is a long stretch of 52 metres in good preservation. The highest part intact is the flanking wall in the diminutive cove at the east side of the gate on the subsidiary promontory. Here there are nine courses.

The total length of the east wall is 215 metres from the sea to the junction with the west wall. The west wall itself is slightly shorter, being some 145 metres only, so that the triangle is not strictly isosceles.

Some part of the area enclosed by these walls consists of rocky outcrops, but there is considerable depth of earth in places and the soil is good. Over the greater part of the area pottery in abundance is to be found. Many fragments of black-glaze ware can be picked up and the shapes indicated by the fragments which I examined were all those of known 5th or 4th century types. I could see no trace of Roman or Byzantine pottery of any kind and certainly no architectural remains of these later periods.

The settlement would clearly have used the fields of the neighbouring *chiftlik* for its immediate wants in crops, but, in the main, the occupants relied obviously upon the sea as their main means of external communication. The cross-wall of the subsidiary promontory and the gate through it would have enabled the residents in times of trouble to assemble on the promontory and embark in ships, with the gate closed behind them.

In ordinary times small ships could put into the two little harbours on each side of the promontory while a long stretch of sand, at least half-a-mile in length, which extends to the west, would have allowed a large number of ships to beach in shallow water, well protected on the west by a projecting cliff of rock.

A few cables away from the end of the promontory are two rocky islets, quite flat, which today support a summer café. These would have been convenient anchorages for ships calling.

The total length of the city was scarcely three hundred yards from the tip of the promontory to the apex of the walls on the summit of the cliff near the farm. But the area between the walls, judging by surface remains, seems to have been extensively occupied.

Just north of the apex, not far from the farm, are several graves made of stone slabs of the type usual in Macedonia in the 5th century,[4] though rougher in quality. These seem to mark a cemetery outside the walls.

Here, then, in miniature is a Greek city-state of the type most commonly met with in Greek colonial regions. Selinus, Byzantium, Megara Hyblaea, and a score of others, exhibit the same type on a larger scale. It was the type most favoured in lands where the barbarians were unreliable and dangerous, so that rapid evacuation was easy. Here is the Greek τεῖχος, the embryo of the full Greek city. It was perched on the cliff edge, as Phocylides says :

πόλις ἐν σκοπέλῳ κατὰ κόσμον
οἰκεῦσα σμικρὴ κρέσσων Νίνου ἀφραινούσης.

Nor is it a coincidence that we hear of τείχη on many parts of the Thracian coast. We are told of the Samothracian τεῖχη near Doriskos and of Thasian settlements on the mainland that never had the full status of cities.

If a name can be given to this city, probably that of Antisara is the most probable, on the assumption that Kavalla is Neapolis[5] (or Neopolis as its inhabitants seem to have called it). Antisara is mentioned by Stephanus[6] as being the harbour for Daton in Thrace, and it occurs again in the Tribute Lists as a humble contributer, with Neopolis as its neighbour παρ' Ἀντισάραι. Neopolis and Antisara thus seem to have stared each other in the face. Today this ancient site and modern Kavalla on its long steep promontory look at each other across their wide and comfortable bay. Neopolis was probably founded by Athens after the capture of Thasos and thus would have replaced the earlier ἐπίνειον Antisara in importance.

Unfortunately no inscriptions have as yet been found in or near this site that could help to throw light upon its identity. It awaits excavation.

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[4] *e.g.* at Zeitenlik near Salonika. See *Albania*, II (1927), p. 28.

[5] This assumption seems of necessity to follow from the discovery at Kavalla of the inscription of Apollophanes, the [illegible] of the Neopolitan Parthenon. Heuzey, *Mission*, p. 21, no. 5.

[6] S.v. Ἀντίσαρα.

Wales in the Fourteenth Century*

by H. J. Randall

THE publication of this map is an event of importance. It is no exaggeration to say that it marks a definite advance in the geographical study of history. There may be other historical maps of a like completeness and accuracy, but if there be, 'this deponent knoweth them not'. It is for this reason that a contribution to local history is deemed to deserve an extended notice in the pages of Antiquity. The map is the result of nearly twenty years of research. The results of that research might have been presented to the public in the form of a bulky volume; it is an event without precedent that they should appear in the form of a map.

For the physical features of the country the half-inch Ordnance Survey map has been adopted, but of human relations nothing modern appears upon it. For many historical purposes an overprint upon the modern map is useful, but in this case, because of the wealth of detail, it would have been confusing. In a country of such varied elevation as Wales, the method of depicting the heights is one of primary importance. The method chosen is that of contouring and layering. The Ordnance Survey map gives contours at intervals of 100 feet up to a height of 1000 feet, and at intervals of 250 feet beyond. It was thought that this was a refinement more than necessary in an historical map of a diversified region. It was finally determined to use four contours only, viz., at 400, 800, 1250, and 2000 feet. The layering between these contours brings out the main features without excess of detail. Below 400 feet are the lowlands and the valleys; between 400 and 800 the foothills; between 800 and 1250 the upper limits of human habitation; above 1250 the high moorlands; and beyond 2000 the mountains.

* Historical Map of South Wales and the Border in the Fourteenth Century. [In four sheets]. With a Handbook. By William Rees, Professor of the History of Wales, University College, Cardiff. Printed at the Ordnance Survey Office, Southampton. To be obtained from the author, price from 26s to 36s, according to mounting.

Upon this physical background has been depicted the structure of medieval Wales. For this purpose Professor Rees has devised a special symbolism. It would be tedious to describe it in detail, but it is essential to mention the main colour scheme. The results of the Anglo-Norman invasions are printed in red, for no one could choose any other colour for things English. In strict accuracy the red colour indicates the non-Welsh elements, because it includes the pre-Conquest settlements of the Norsemen, as well as the post-Conquest settlements of the Normans and their followers and the Flemings. The Welsh elements are printed in black. In such a meeting-ground of peoples as South Wales the demarcation is often difficult, and in many cases cannot be precise. Overlappings occur frequently, and then the colour chosen has been that of the predominant element. It must not be inferred that the difference of colour always indicates a difference of language. The map is a map of institutions, not a map of languages, or of races. The red and black colours indicate first and foremost the contrast of feudalism and tribalism, and only secondarily that of English and Welsh.

The third main element is the Church, the possessions of which are indicated by a blue colour. The medieval church, both secular and monastic, stood to a large extent outside the organization of the State, and it was essential that it should be coloured separately.

The great distinction of the map is that it has been compiled entirely from the records. Only a small proportion of these are in print, but there is definite record authority for everything that the map contains or omits. The disproportion between the work performed and the apparent result is so enormous as to be almost ludicrous. This is especially so in the matter of boundaries. There are definite records of many boundaries, but for the most part it has been necessary to place them by a process of trial and error. Some of the manorial surveys contain perambulations, but their distribution is erratic. Other sources provide assistance such as the parochial boundaries recorded in ancient Welsh in the Book of Llandaf. Yet when all these direct sources have been exhausted the final process of inference has often been something of this kind. Place no. 1 is recorded as belonging to manor A and place no. 2 to manor B and the actual boundary between A and B is a line somewhere between the two. The actual line is then a matter of inference and balance of probability, amounting to practical certainty in some cases and a high degree of probability in others. Some general considerations are also of assistance, *e.g.* in a plateau country

an upland people will often adopt a river boundary, but a general system of river boundaries cannot be postulated ; the exceptions are too many and important.

If the bounds of medieval institutions, like manors and lordships, are difficult, the Welsh divisions of cantrefs and commotes, maenors and gwestfas are still more so.[1] In the feudalized districts the ancient divisions were so completely obliterated that their extent must be a matter of conjecture. On the other hand in the crown territories of West Wales and in the Welsheries of the Norman manors the native organization, covered by a thin veneer of feudalism, survived far into the Middle Ages. In all these instances, the geography of the Church is of the greatest assistance in interpreting the geography of the State. The Church is the most conservative of institutions, and its natural conservatism is strengthened by considerations of finance. Alterations of boundaries mean transfers of tithes and dues. Therefore, except for compelling reasons, they are not made. Ancient ecclesiastical boundaries tend to follow ancient civil boundaries, and have often survived the destruction of the civil unit. It would be unsafe to attempt a sweeping generalization, as that archdeaconries, rural deaneries, and parishes were coterminous with cantrefs, commotes, and maenors ; but the assistance afforded by church boundaries is always important and often decisive.

The period chosen by Dr Rees for his map is the first half of the fourteenth century. The decisive reason for the choice of this period is that sufficient records are then, for the first time, available. Other reasons combine to make the choice a happy one. It was the turning point of the Middle Ages. The great creative centuries, the twelfth and thirteenth, had passed away leaving permanent legacies to civilization. It would be false to call the age of Chaucer and of Perpendicular architecture a period of stagnation, but the fourteenth century was not creative as the twelfth and thirteenth had been. Towards its end the first streaks of the dawn of the modern period were apparent. Feudalism was disintegrating, monasticism was declining, the Black Death and the Hundred Years' War had shaken the economic system to its foundations, and Wyclif was the forerunner of the Reformers.

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[1] The Welsh ' cantref ' has been anglicized with the alteration of one letter as ' cantred ', ' cwmwd ' with more change as ' commote. ' We follow Dr Rees in respecting the frailties of his readers by using commote. The historical student must be warned against the tempting correlations of cantref with hundred, and maenor with manor.

A most striking feature of the map is its resemblance in main outline to the map of modern Wales in spite of the immense changes. The lands of the Church have been transferred to private ownership, and the industrial revolution has swept over the great coalfield. The sparsely populated abodes of herdsmen like Glyn-Rotheni, Miscin, and Senghenydd have become the great agglomerations of people of the Rhondda, Aberdare, and Merthyr Tydfil, but their essential character has not altered. They were predominantly Welsh in the fourteenth century; they are the same today. The English settlements were below the 400 feet contour line then; they are below it now. The passing of 600 years has produced a minimum of essential change. But if it were possible to project the map of Wales back another 600 years, to the eighth century, the changes would have been immense. The first half of the fourteenth century marks the dividing line. The ages of movement had ended and the ages of stability had begun. In the eighth century everything would have been different; in the fourteenth century we can recognize the Wales we know.

The ages of movement produced results of the greatest interest to which historians in general have been curiously blind. The Englishries of Pembroke and Gower are phenomena of a most unusual character. South Pembroke, 'the Little England beyond Wales', maintains a community as purely English in speech and thought as that of Dorset, but separated from England by 50 to 70 miles of Welsheries. George Owen of Henllys, the earliest and one of the greatest of county historians, thus describes the situation in the reign of Elizabeth.[2]

> 'The said country of Pembrokeshire is usually called *Little England beyond Wales*, and that not unworthily, and therefore I think good to shew my opinion why the same was so called: Mr *Camden* calleth it *Anglia transwallina*, the reasons why it took that name may well be conjectured, for that the most part of the country speaketh English, and in it no use of the Welsh; The names of the people are mere English each family following the English fashion in surnames; Their buildings are English like, in Townreddes and villages and not in several and lone houses; Their diet is as the English people use, as the common food is, beef mutton pig goose lamb veal and kid which usually the poorest husbandman doth daily feed on. The names of the country

[2] *The Description of Pembrokeshire*. Cymmrodorion Society's edition, p. 33. The spelling of the extract has been modernized.

places are altogether English, as *Wiston*, *Picton*, *Haroldston*, *Robeston*, *Johnston*, *Williamston*, *Norton*, *Weston*, *South Hill*, *South Hooke*, etc.

'So that a stranger travelling from *England* and having ridden four score miles and more in *Wales*, having heard no English, no English names of people or of places, and coming hither to Pembrokeshire where he shall find nothing but English, and seeing the rest before agreable to England, would think that Wales were environed with England, and would imagine he had travelled through Wales and come into England again'.

An entertaining account by Mr A. G. Bradley in *Highways and Byways in South Wales*, shows the same position maintained practically without alteration at the beginning of the present century, and Dr Rees' map shows that it was just the same in the fourteenth. Everyone has read of the plantation of Ulster, but how many know aught of the plantation of Pembroke?

Even less known than the Little England beyond Wales is the Little Wales beyond England—the hundred of Archenfield or cantref of Erging in South Herefordshire. It is the triangle of country between the Wye and the Monnow and its northern boundary extends to within half a dozen miles of the stronghold of Hereford.

All trace of the Welsh language has long vanished from the district, nor have the inhabitants the slightest recollection of their remote ancestry. Yet the bulk of the place-names are still Welsh, and for the greater part of the Middle Ages it was a distinct Welshery in England. For this district we have the priceless record of Domesday, and Domesday duly records its special customs. There is a schedule of payments for killing a king's vassal or a thane's vassal. But if Welshman slew Welshman the scale of charges had no application. 'In that event the relatives of the slain meet together and plunder the slayer and his kinsmen and burn their houses until about noon on the morrow, when the dead man's body may be buried. Of this plunder the king took a third, "of all the rest they are quit"'. Most remarkable of all is the entry:—'When the army marches against the enemy they form by custom the vanguard in the advance and rearguard in the return'. The enemy were the unconquered Welsh. No passage could provide a more significant warning against the folly of attempting to use the conception of nationality in the interpretation of the Middle Ages.

The Little Wales beyond England is a more curious historical anomaly than the Little England beyond Wales. Until recently no

reasonable explanation of its existence was forthcoming. The land was not unattractive to agricultural settlers—far from it. It was not an upland region left by the valley-loving English to the hill-loving Welsh. It was not remote, but a goodly portion of the smiling land of Hereford. The true explanation was divined by Dr Fox in the course of his survey of Offa's Dyke. It was found that over a large area of the county of Hereford the Dyke was entirely absent. It had not been levelled or destroyed, it had never been there. There were occasional short sections which protected early English settlements but these were complete in themselves. In the long intervals between these short sections there was not the slightest evidence that the Dyke had ever existed. The reason for this conspicuous change in the character of the great earthwork was found to be geological. The Dyke became intermittent or disappeared at the spot where it touched the Old Red Sandstone. For long ages past the Old Red Sandstone has nourished the most fertile soils of that rich agricultural county. In the Dark Ages the fertility of the soil enabled it to nourish an impenetrable forest of the damp oakwood type. The Dyke was absent because it was not needed. A visible frontier is useless and meaningless when there is no man to see it. An uninhabitated country, whether desert or forest, is the most scientific of all frontiers.

So for centuries the wave of English invasion broke against the forest barrier of southern Herefordshire. It flowed round it to the north by the way of the Wye, and to the south by the way of the Severn estuary. Behind the forest barrier, in a little backwater under its protection, was left the Welsh community of Archenfield to form the vanguard against the ' enemy ' and to provide stout bowmen for English armies.

Further west we find a similar community with a more obvious reason for its existence. The region of the Black Mountains on the borders of Hereford and Brecon stands out on Dr Rees' map like a Welsh island in an English sea. The valley or lowland character of the English settlement is nowhere displayed more clearly than in Breconshire. The main line of English penetration was based upon Hereford and proceeded up the valley of the Wye. It reached Boughrood and Llangoed, just where the river definitely becomes a mountain stream, and there stopped. In its course it had overpassed one of the governing features in the geography of Wales :—the low Talgarth gap which connects the middle Wye and the middle Usk. Through that gap it passed and up the Usk valley past Brecon to Aberyscir, at the

very gate of the Roman fort known as The Gaer. There again, at the foot of the mountains, it ceased for a time, and turning down the Usk valley met another line of invasion proceeding up the same valley from Abergavenny, at or near Crickhowell. The result of these wide movements was to throw a girdle of lowland settlements round the mass of the Black Mountains. The Black Mountains were left, and still remain, as a region of hill farms Welsh in sentiment and outlook, and for a long time in language.

However the details of Welsh history are not likely to be of extensive interest, and it must suffice to indicate very briefly a few of the numerous features that the map portrays.

The roads are indicated as far as possible, but a great amount of intensive study remains to be done by local antiquaries before the ancient ways can be restored with completeness. River boundaries and ridgeway routes are characteristic of an upland people ; but by the fourteenth century the valleys had been mastered and new routes created without superseding the more ancient system. A ridgeway survey of Wales has still to be completed, but the map shows all the medieval tracks for which there is any reasonable historical evidence. The period was before the building of the main stone bridges, for which the great period in Wales as in England was the fifteenth century. The sites of the ancient fairs are all related to the old trackways. For this reason many of them are ludicrously out of focus in relation to modern communications.

The physical changes, though not great in the aggregate, are more numerous than might have been expected in a mountain country. As Dr Rees remarks :—

> ' Coast erosion, if not actual sinking, took place on a considerable scale, especially from about the fourteenth to the sixteenth century. Little Caldey Island was severed from the mainland only in the sixteenth century. During these centuries, too, the sea made great inroads along the estuaries of the Towy, the Gwendraeth, and the Llwchwr, destroying the village of Halkinchurch, submerging the forest of Pencoed and Penryn, flooding the marshlands and altering the contour of the coast in the neighbourhood of Kidwelly, Llanelly, Briton Ferry, and Aberavon '.

The sand dunes extended their area considerably during the same period. There does not seem to be any definite evidence for the great sand storm described by Blackmore in *The Maid of Sker*, but the records

of Margam Abbey, and an Act of Philip and Mary conferring extended powers upon commissioners of sewers, are evidence of a great extension of the blown sand upon the Glamorgan coast between Aberafan and the mouth of the Ogmore. The medieval borough and castle of Kenfig was completely sanded over at this time.[3]

The boroughs of Wales are a feature apt to be extremely misleading to a student of history familiar with the long struggle for municipal ' liberty ' (which meant exclusive privilege) in Western Europe generally. We have the authority of that superb journalist, Giraldus Cambrensis, for the statement that the Welsh people took unkindly to towns. Urban life and organized trade are entirely alien to the life and outlook of a tribal society. The Welsh boroughs were not Welsh. They were centres of English influence, founded and maintained as such until the changes in conditions rendered their exclusiveness unnecessary. In all South Wales two boroughs only were of Welsh foundation :— Lampeter in Cardigan and Aberafan in Glamorgan. Even of these two Aberafan was something of an anomaly because the lord of Afan held his lordship directly under the marcher lord of Glamorgan.

The details of the Welsh administrative and social system cannot be set forth intelligibly in a mere summary. It must suffice to say that they survived in the Welsheries and the counties until the period of the Tudor reforms, and some lingered on as copyhold customs until the passing of the Law of Property Act in 1925. In the fourteenth century they present a picture of tribalism slowly disintegrating.

Such, in brief outline, is the contents of this most remarkable map. The subject may be primarily of local interest, but in its presentation of the results of years of research it is a pioneer work of modern historical geography, and as an example of method is of interest far beyond the narrow bounds of Wales. As Professor Rees remarks, it enables ' the reader to see, not a medley of castles, towns and villages, but an ordered system of political and social groupings. Beneath the complexity of the post-Conquest conditions, it is not difficult to trace the framework of the old order, for Wales of post-Conquest days bears strongly the imprint of the parent stock. It is this factor of continuity in social and legal arrangements which provides the stable element in all society and the importance of this in the study of local history cannot be over emphasised '.

[3] A most important study on ' The Problem of the Sand Dune areas on the South Wales Coast ', by Mr Leonard S. Higgins, is published in *Arch. Camb.*, June 1933, pp. 26–67.

Notes and News

BATTLE-AXES FROM TROY

Four battle-axes found in the second city of Troy have never before, to the best of my knowledge, been photographed. They were published by Dörpfeld[1] and figure in Hubert Schmidt's excellent catalogue[2] of the Schliemann collection at Berlin, where they now are. But it is strange that they should have aroused so little interest, either at the time of their discovery or subsequently.

They are clearly ceremonial battle-axes of a type known in Europe. The nearest parallels are from South Russia.[3]

Leaving on one side their archaeological importance, which in any case is difficult to estimate, a closer study of their character and of their technical qualities deserves particular attention. For they are, first and foremost, works of art, and were designed by their maker to be that and nothing else.

Of the two axes here figured one (plate I) is made of a dark lustrous nephrite, almost indigo in colour, and the other (plate II) of rich blue lapis lazuli flecked with brown spots and striated.

The axes of nephrite have stood the wear and tear of time without any damage at all. That of lapis lazuli has one blade point chipped off and some small flakes have become detached from the surface. Nephrite has powers of endurance above lapis lazuli and a certain elastic quality of resistance which prevents flaking.

All four axes are very finely polished, so as to enhance their beauty of colour and form. As examples of sculptured stone their rivals are to be found only among the jades and lapis lazuli carvings of early China.

No one, on seeing them in the Völkerskunde Museum at Berlin, can fail to admire their perfect combination of colour and form, enhanced by detailed ornament and exquisite polish. No collector of jades and agates would hesitate to covet them for his collection.

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[1] Troja-Ilion, p. 375. [2] Nos. 6055–8.

[3] Childe, *Dawn of European Civilization*, pp. 58–60.

Each axe has a band of small knobs in relief round the centre, meeting the shaft-holes at the middle, and each band of knobs is worked in exactly the same way. This close similarity, or actual identity of technique in the four axes, makes it most probable that they were all executed by one artist at the same time, or at least in that artist's lifetime. The knobs are made by dividing the area to be so ornamented into a chequer of squares of equal size with a wheel or file. The small squares so left in relief were then rounded by means of a tubular drill and the small cylindrical projections thus made were rubbed by abrasion into knobs. The squares of the original pattern can still be detected enclosing each knob and the circular mark made by the tubular drill round the base of each knob is equally clear.

Two of the axes have identical ornament as a whole. The knobbed band (shown in plate II) is flanked by a triple band of hatching, which looks as if it had been made by the use of an emery wheel. The plain bands that divide the hatching, like the plain bands of the axe in plate I, look also as if they had been done on a wheel.

The whole surface of each axe, as can be seen clearly enough in the photographs, is brought to a very high glassy polish, without any trace of faceting. Two of the axes (not illustrated) have a flattened surface on the upper part of the butt end.

These axes are clearly not the product of an ordinary maker of stone axes, whose usual method was merely to grind his stone upon a mass of harder stone in order to get the main shape, and then to smooth out the detailed surfaces by rubbing with smaller hard stones, and to bore the shaft hole with a very coarse form of tubular drill, helped by abrasive sand. Such crude borings can be seen half-finished in nos. 7219, 7227 and 7233 of Schmidt's catalogue.

Here we have the work of a highly skilled lapidary who was using a very fine reed-drill for the knobs of the central band as well as a wheel of the type used by gem-cutters. If we doubt the wheel we must at least assume the use of a very fine file of abrasive, such as a gem-cutter would use. In fact these instruments, the wheel or file, a very small reed-drill, and in addition an abrasive point such as was used perhaps for the hatching of one axe (not illustrated here) are part, if not the whole, of the tool-box of the Babylonian seal-cutter. There seems, therefore, some reason for supposing that these royal axes—for such they must be—were actually made by a sophisticated oriental craftsman. The shape of the axe is purely Nordic, and the nephrite of which three are made is a European material. But we are driven to conclude that

for the finer objects of ceremonial use the kings of Troy preferred foreign labour.

Other axes of ordinary stone of the same general shape, but unornamented, have been found at Troy, so that the shape was in no way unfamiliar, but there are no axes in existence in Europe of the Bronze or Stone Age which can compare for a moment with these in workmanship. STANLEY CASSON.

THE AUGUSTAN AGE

The proposals of the Italian Government to celebrate the bimillenary of the Emperor Augustus are so important and of such interest that we reprint, by permission, the excellent account written by the Rome Correspondent of the *Glasgow Herald* in its issue of 1 May last.

At a ' Congress of Roman Studies ' Professor Paribeni announced the programme which the Italian Government intends to carry out in honour of the bimillenary of the great Emperor Augustus. The period for the celebration has been fixed for 1937–1938, but the programme is so vast that the time for its accomplishment within the next four and a half years seems all too short. It encompasses projects which have baffled engineers for centuries past. The most difficult item will be the recovery of the Ara Pacis. Monuments, temples, shrines, and memorials all over Italy are to be restored and a thorough exploration made in the vaults of the Imperial Augustan Mausoleum in Rome. It was Augustus who found Rome a city built of brick and left it a city built of marble. His reign is marked in history as the Golden Age of Roman art, architecture, and culture. The work ahead, therefore, means a restoration of the finest classic relics to be found in Italy.

The Ara Pacis was an altar enshrined in a miniature temple erected in Rome in the year 9 B.C. and dedicated to the Augustan Peace which the Roman Empire enjoyed on the return of the Emperor from the pacification of Spain and Gaul. From records the shrine is known to have been a wonderful bit of work, and fragments of it bear witness to the truth of all claims. The outstanding feature is a series of basso-rilievo marble carvings (plate III) showing processions, triumphs, and portraits—a panorama of its age. It stood on the Campus Martius, the parade area which marked the junction of the Flaminian Way with the region of the Roman Forums. The Flaminian Way, still the Via Flaminia of modern Rome, now ends at the Porto del Popolo and con-

tinues into the heart of the city under the name of the Corso Umberto, which therefore covers partly the site of the Campus Martius.

From the fall of the Empire, through medieval times and right up to the present day, the Corso Umberto, under a succession of different names, has always remained the principal street of Rome. Its frontage today is punctuated with well-built banks and institutions and ancient palaces of fine architecture. In the Dark Ages much, practically all, of Rome's classic memorials in this zone not only collapsed before cataclysms of man and nature, but became overlaid with the deposits of ramshackle superstructures, so that the Renaissance level, which still prevails, of the city was hereabouts many feet higher than the old Roman level. In 1431 a palace called the Palazzo Fiano was built—and away down among its foundations was the Ara Pacis of Augustus.

During repairs in 1568 a piece of the ancient carving came to light. It was ultimately discovered to tally with a section of sculptured marble used as a tomb-cover to a priest who died in 1628 and was buried in the Church of Gesu. The first piece found its way through the Medici family to France and to the Louvre, where it now is. The second piece is in the Vatican Museum. Another bit was unearthed and is now in the Uffizi Gallery at Florence. Attempts were made to reach the art treasure at last accurately located, but threatening cracks in the palace walls put a stop to that. In the late eighteenth and middle nineteenth centuries borings were made, and fragments were grappled up blindly and brokenly. Some of these were sold abroad—a fine head going to Vienna. One fragment was stuck on to the façade of the Villa Medici, which belongs to France ; another is in the Rome National Museum.

In 1903 a serious and more scientific attempt was made to excavate the treasure. A regular shaft was sunk in the enclosed central courtyard of the Palazzo Fiano, and work was begun on a subterranean gallery to the altar site. But unsuspected springs of water were found, whose deviation by the digging imperilled the whole foundations of the buildings. A few more fragments of tantalising promise were recovered, but the general task was pronounced impossible by the engineers and the project was abandoned. The shaft is now a well. It is this abandoned job which it is now decided to accomplish.

Archaeologists and engineers are already in consultation to discuss ways and means. While they are engaged on this main work of recovery, the Government is preparing to negotiate for the return and concentration of all the scattered portions. The Vienna fragment has already been bought in ; the Rome and Uffizi Museums will be told

to stand and deliver ; and exchanges for other works of art will be offered to the Vatican and France.

By the time that the bimillenary festivals begin it is intended that the Ara Pacis be reconstructed on the Capitoline Hill.

The other big undertaking is the isolation of the tomb of Augustus and his kindred, and its complete subterranean exploration. The tomb is about the size and shape of the Albert Hall. It is also on the Campus Martius site, just off the Corso. As a mausoleum it consisted of central burial vaults encircled overhead by a surrounding marble wall four storeys high, but instead of storeys the space cupped within the walls above the vaults was filled in with earth which rose high above the walls in a tree-covered dome. The earth was scooped out in the Middle Ages, and the shell in course of its long history has served as a market, a fortress, and a bull ring. It is now domed over and is Rome's principal concert hall—still known as the Augusteo.

THE BAY OF ELEUTHERAE

Westwards of Kalamitsa-Antisara is a long indented stretch of coast consisting, like the Kavalla region, of grey granite bluffs. There is little earth or cultivable land until Palaio Metochi is reached. Here is both beach and fertile hinterland, but, on the other hand, no defensible site for a city.

The modern village of Heraklitsa is no better situated. But the great bay of Eleutherae, or Deuthero Cove as it is called on the Admiralty Chart, is a superb anchorage for ships of light draught. In shape and accommodation it is a smaller version of the type of Mediterranean harbour represented by those of Melos, Syracuse, or Lemnos. But, like them, it is too large in area and has too wide an entrance to permit of proper defence. Its entrance is only to a certain extent covered by the small rocky island known as Xeronisi.

In a harbour of this shape the natural place for the siting of a Greek city, on the analogy of Syracuse or Halicarnassos, would be on the long promontory known as Cape Vrasida,[1] or else on the opposite projection on the north side of the harbour. But the latter is ruled out because it is too high and inaccessible from the shore, consisting as it does of sheer cliff on all sides. Cape Vrasida, on the other hand, is low

[1] I have suggested tentatively (*Macedonia, Thrace, Illyria*, p. 46), that this name, otherwise inexplicable, preserves that of Brasidas the Spartan.

and almost level, barely fifty feet at the most above the sea. But it is too narrow to hold a city and too exposed.

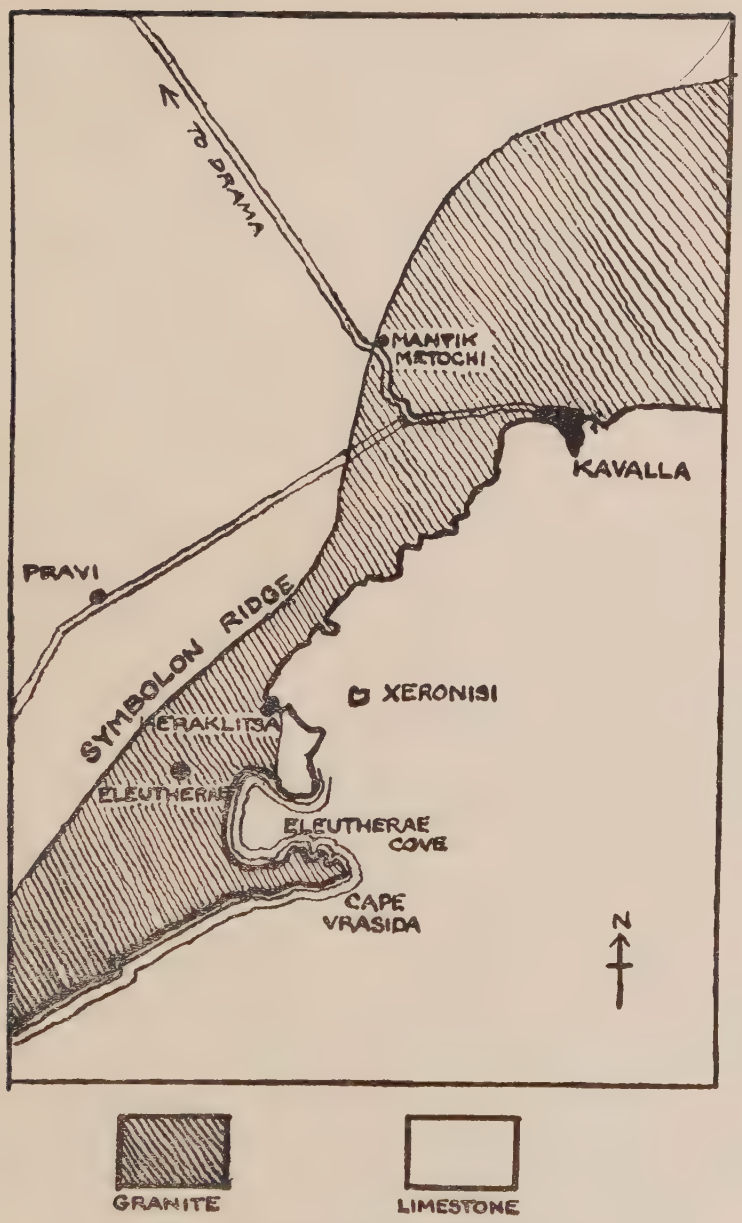
But at the extreme southwest corner of the bay stands a large Byzantine castle in an extremely good state of preservation, known vaguely as Kaléh Metochi.[2] It overhangs a rocky outcrop at the extreme south end of the long sandy beach that begins on the north at the refugees' village of Nea Perama just east of Eleutherae. The plan of the castle, curiously enough, is the same as the plan of Kalamitsa and of Hellenic Philippi. Two lateral walls and a sea wall form the triangle, at the apex of which is a square tower of great strength. The tower, unlike the walls, is built of squared blocks of stone, many of which are evidently from earlier buildings. There are also many fragments of well-cut marble derived from ancient structures, amongst them part of a large column in local crystalline marble measuring 40 metres in diameter and 1.30 in length, but unfluted and perhaps unfinished. Near the tower, and perhaps detached from it, is a curious marble fragment upon which in relief is a design which suggests that it is a fragment of a large marble seat.

Immediately to the south of the tower is a depression at sea-level and beyond it is the main spur of Vrasida point. The whole of the coast here is honeycombed with Bulgarian forts and trenches from the campaign of 1916–18, since an Allied landing was daily expected in this excellent bay. Near the highest of these forts or blockhouses is a small stretch of granite wall of ancient construction of the same type as that at Kalamitsa. But the destruction caused by the Bulgarian works is such that its purpose cannot be made out. But its direction is north and south, so that it may be a cross-wall over the spur.

In any case the presence of an ancient site in the immediate neighbourhood is indicated by these various ancient remains and by the fact that the only safe site in or near the harbour for a settlement would be that approximately covered by the Byzantine castle.

The Byzantine castle itself is a splendid building of great strength. In the face of the sea-walls are built in brick inlay two fine crosses.

[2] Heuzey (*Mission*, p. 11) is one of the few travellers in Macedonia to give even a mention of this castle. But he strangely refers to it as Eski-Kavalla. I can find no record of any sort for it ever having borne this name. On the other hand the village known as Eski-Kavalla is situated a few miles north of Kavalla. See Svoronos, *Hellénisme dans la Macédoine*, p. 71, who follows the cartographer Chrysochoos. Modern maps in general place it in the same region, the Greek General Staff Map placing it near the hamlet of Korzou just east of the Kavalla–Doxato road.



SCALE OF ADMIRALTY CHART 1086.

But there is no inscription to be found. The general character of the building suggests the tenth or eleventh century, though it would be rash to be precise in a matter where so little chronological research has been carried out. Within the walls are extensive remains of domestic buildings, though no trace of any church or chapel. The general character of the walls resembles the Byzantine parts of the castle of Ainos, further along the coast, though the plan is different. Ainos was one of the strongholds of Thrace which Justinian fortified against the inroads of barbarians[3] and probably this castle was another of the series. Its position is such that it can control the low pass south of Pangaeum that allows of passage from the Strymon mouth through to the Philippi plain near the modern Pravi, and that it protects this convenient harbour from sea-attack and from becoming the rendezvous of pirates. Nor is it a coincidence that the Bulgarian armies fortified this particular coast more strongly than any other part of the Thracian coastline. Their principal anxiety was an Allied landing in the bay with the intention of sending a ' cutting out ' expedition inland to the railway at Drama.

STANLEY CASSON.

THE ' INTERRUPTED DITCH ' : A POSSIBLE EXPLANATION

One of the chief puzzles of British field-archaeology is the ' interrupted ditch ' which surrounds the interior of neolithic camps. A fuller description is unnecessary, for the expression explains itself ; and examples have been given, with plans and air-photographs, in Dr Curwen's article on Neolithic Camps (ANTIQUITY, 1930, IV, 22–54). Since that article was written it has been found, by Dr Curwen himself, that there is a row of post-holes set round the edge of some of these interrupted sections of ditch at the Trundle (*Sussex Arch. Collns*, LXXII, 106–111). From this it seems to follow that the ditch-fragments were covered by some sort of sloping roof or pent-house, that they were in fact pit-dwellings or huts of a sort. Such an explanation would account for the abundance of the potsherds and other relics found in the ditches, as at Windmill Hill and Abingdon ; and in this connexion it is worth noting that the Abbé Breuil, after visiting Windmill Hill, gave it as his opinion (in conversation with the writer) that the occupants lived in the ditches there. There are difficulties in accepting this view, the stratified and quite normal silting of the ditches being one of them ; also it runs counter to our knowledge of the arrangements inside later ' camps '

[3] B.S.A. XV (Hasluck), p. 250.

of the Iron Age, where ditch-living was certainly not practised. Nevertheless the theory does explain most of the facts better than any other, and the evidence of the Trundle post-holes (which are found on *both* sides of the ditch) is a hard nut to crack.

Further support for this explanation comes, by analogy, from Morocco. There, a certain tribe called the Beni Mguild pitch their tents in a circle round their flocks and herds, to protect them from raiders and also (we imagine) to prevent them from straying (plate IV). 'The space between the tents is filled with thorny brush'. The tents themselves thus form the defensive ramparts. May not a similar practice have been observed in Britain? An obvious objection is that with such an arrangement the digging of ditches at all would seem to be superfluous or even an added inconvenience. On the other hand it would add to the roof-space which, with the narrow width postulated by the ditches, could not otherwise have been adequate. The theory is further supported by the fact that the neolithic camp-ditches, wherever excavated, have been found to have broad, flat bottoms.

We have always imagined that the Neolithic and early Bronze Age people of Britain were predominantly pastoral, and a theory which explains their chief habitation-sites on these lines is therefore *a priori* acceptable.

The illustration is reproduced direct from the *National Geographic Magazine*, March 1932, p. 279, by courtesy of the Editor. Our attention was first drawn to it by Dr Cecil Curwen over a year ago, and we have been trying ever since to obtain from Monsieur Flandrin, whose article it illustrates, a photographic print, and his permission to use it, but without success. We hope that he will forgive us for now publishing it again without ; we do not wish to hold it up any longer, in view of its interest for British prehistorians. O.G.S.C.

BOATS AT TREBIZOND

Despite all that has been written about the ancient ships of Greece and of Rome, there still remains so much unknown that to make any sort of reproduction or model needs a free use of the imagination, freer probably than is generally realized. But as the study of the many curious types of boats which survive in remote corners of the world advances it becomes more and more apparent that there is hardly any boat-building usage of the ancient world which cannot be matched by some practice still in use, although possibly in some totally different part of the world.

The double-steering oars, one on each quarter, still found in the large proas of Java and Malaya, are arranged exactly as were the double steering oars of the vessels of Greece and Rome, while, to mention a direct survival, the Ferillas of Malta still preserve at their bows the remnant of the ancient ram of the war-galleys.

When, therefore, the Editor was good enough to show me photographs which he had taken in 1932 of the boats of Trebizond, I examined them with great hopes of finding some points which would throw new light on ancient Greek shipbuilding.

The photographs show three distinct types of boats, small undecked sailing-boats in which wood is imported into Trebizond (plate v); ordinary beach-boats which differ little from those to be found in many parts of the Levant; and local lighters of a most interesting type (plate vi).

As has always been usual in the Mediterranean, all these boats are carvel-built, that is with successive planks placed smoothly one above the other, and not overlapping as in a Thames skiff.

The small sailing boats are all one-masted and rigged with one large lateen sail, to which some of them add a jib forward, but any strong resemblance to their predecessors of old is negatived by their transom sterns, planked straight across from side to side. For this type of stern seems to have been unknown until the beginning of the 16th century, when it appeared in Western Europe. It is also worth mentioning that there is no evidence of the use of the lateen sail in the Mediterranean until after the Arab conquests. Previously the only sail in use was the simple square sail.

But these boats do show one survival of ancient practice and that is the way in which they are brought into the shore stern first, just as were the Greek galleys, while their cargo is landed from a gang-plank over the stern. My attention was attracted to this point by Mr Crawford and its importance is increased by the fact that below water the stern-post is definitely rounded off, so as to facilitate this landing from the stern. In general, however, these boats do not differ greatly from many to be found among the Greek Islands.

If we turn now to the heavy round-bottomed lighters (plate vi), which are seen drawn up on the beach, we find a type of boat which owes little or nothing to its more developed western sisters. Both bow and stern are turned upwards in a graceful curve, and stem can only be distinguished from stern by the grapnel at the bow and by the rudder-irons on the stern-post. At each end a very noticeable feature

is formed by the two posts which project upwards with a space between them. These knight-heads, as they used to be called in the 17th century, when they were decorated with the carved heads of knights or Saracens, obviously serve nowadays as a lead for tow-ropes. But the way in which they are fitted one on each side of the stem, and of the stern-post, together with their upward and inward curve, at once suggest a method by which the high incurving sterns of Greek galleys and of Roman corn-ships may well have been built up. The construction of these sterns has long presented a difficult problem for, if the heavy stern post were carried far up, it must have been very cumbersome, while timber with an adequate curvature must have been hard to find. But the photograph of the Trebizond lighters, which exhibit the beginning of the same inward, shows that the heavy stern-post ends at a comparatively low level, while the two much lighter timbers, one on each side of it, start comparatively high up and thus could easily be prolonged to form either the fan-shaped stern of a Greek galley or the swan-shaped stern of a Roman sailing ship. With this similarity established, it would seem that a detailed examination of the internal construction of these craft might well throw light on the general structure—the ram, of course, excluded—of the galleys of Ancient Greece. G. S. Laird Clowes.

AN ENGLISH HILL-TOP TOWN

Stow-on-the-Wold, where the wind blows cold, is $3\frac{1}{2}$ miles north-east of Bourton-on-the-Water (and that's next to Slaughter). The old rhyme seized upon the essential feature of Stow—its exposed situation ; and this of course was due to its position, unusual for an English market town, on the top of a hill. There are others comparable —Shaftesbury in Dorset is the most striking perhaps, commanding as it does a view over the wide vale of Blackmore ; a fact reflected perhaps in the name of its Celtic predecessor. That such a predecessor existed is implied by the terminations both of Shaftesbury and of Alcester, the district southwest of the town in which Castle Hill lies.

Devizes is another, and its position is, geologically, exactly comparable with that of Shaftesbury. But, although Roman remains have been found on the eastern suburbs, there is no evidence that a Celtic hill-fort existed there. The existing earthworks are the remains of the medieval castle, which has determined the curious plan of the town and its outer streets. The name itself is unique in being of medieval Latin

PLAN OF STOW ON THE WOLD FROM THE 6 INCH ORDNANCE MAP (edition of 1923)

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origin (*apud divisas*, at the boundaries). Old Sarum was a hill-town of prehistoric origin until it was deserted. But Stow-on-the-Wold is still a flourishing market town. Evidence of its prehistoric ancestry comes from three sources. In 1920 I was struck by the plan of its parish boundary on the 6-inch map. This follows a curving line round the hill, strongly suggestive of the contour of a hill-fort's ramparts (see plan opposite). I examined the line so marked on the ground; but while I found nothing inconsistent with this explanation, I found no remains of ramparts or ancient walling to confirm it. In *The Times Literary Supplement*, 8 Feb. 1923, p. 92, is a letter from Dr Grundy pointing out that Stow was the site of Maethelgeres burh mentioned in a charter of 949.[1] Dr Grundy had reached this conclusion on the quite independent evidence of Saxon land-boundaries. His evidence was far stronger, of course, than mine, which it so strikingly confirmed. The name, now changed into the form Maugersbury, survives in that of a small village on the south-eastern outskirts of Stow (see plan). The third source is the air-photograph reproduced here (plate VII). It is one of Major Allen's; and he took it because he saw at once that the wall which encloses the town so neatly must follow the line of an older rampart. The wall in question is actually the parish boundary already referred to.

Ancient remains have been found in Stow from time to time, the most remarkable being a carved stone figure which was recorded by Mr Passmore. To the north of the town burials of the Saxon period have been found beside the Foss Way, whose straight course may be seen crossing the photograph immediately beyond the town. The nucleus of the existing (and medieval) settlement was undoubtedly the market-place which, it will be observed, lies just outside the presumed limits of the older hill-village. It seems probable that, in the Roman period, an open roadside settlement grew up just outside the ramparts, beside the Foss Way. That would be in accordance with what happened elsewhere in Romano-British times, and indeed happens still wherever an important thoroughfare passes near, but not through, an older settlement. We know that the hill-forts were often abandoned when the pax Romana made their defences obsolete; and that villages

[1] Birch, *Cart. Sax.* 882; see Dr Grundy in *Trans. Birmingham Arch. Soc.* 1927, LII, 181 (issued also as a special volume by the Oxford University Press, 1931, *Saxon Charters of Worcestershire*, 181).

sprang up outside.[2] At Stow there has been a reversion to the prehistoric régime, but the open settlement has also survived.

The name itself used to be Edward's Stowe. We do not know exactly what the significance of Stow as a place-name was, except that it generally had ecclesiastical or 'sacred' associations. Here possibly the undoubted antiquity of the place may have been a factor which contributed, perhaps indirectly, to its sanctity. O.G.S.C.

THE ROMAN ROAD FROM LEWES TO LONDON

The line of this road has already been explored across Sussex, Surrey and Kent by Mr I. D. Margary, Mr James Graham and others, as far as the southern boundary of West Wickham parish, where it is followed by the straight line of the Kent, Surrey boundary to the north end of Rowdown wood.

The county boundary then bears away to the west, but excavations made during April and May have shown that the road continues its straight course across West Wickham parish, passing about 300 feet to the west of the church.

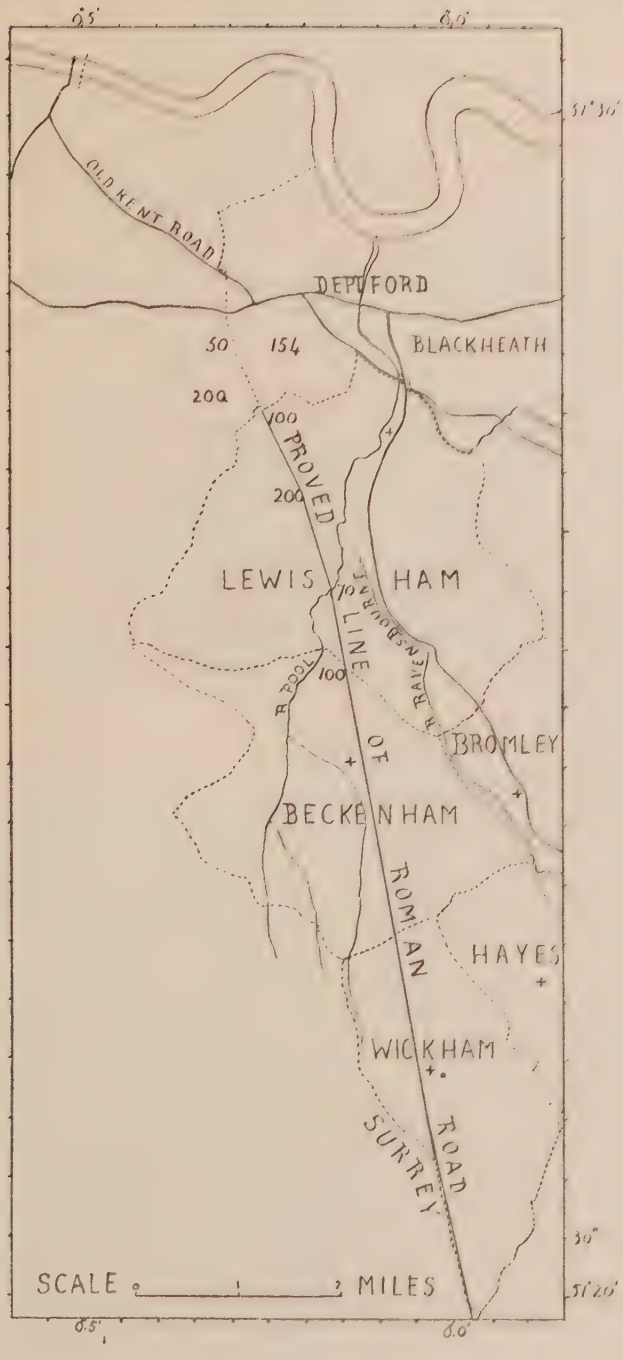
Several sections were cut, which showed a metalled road 15–18 feet wide, of the usual construction of a layer of large flints at the base, covered with 5–7 inches of washed flint ballast and a capping of the local yellow gravel. The depth below the surface was 12–18 inches.

Following the straight line across West Wickham and Beckenham where good sections are not easy to find on account of the gravel subsoil and the numerous houses, a long line of undisturbed road is found in Lewisham parish between the Beckenham boundary and Southend Lane. The metal is here 30 feet wide and of the usual construction, 11 inches thick. The same line leads to the footbridge across the Pool river at the end of Broad Mead road, where the road can be traced.

Continuing this alignment would lead to New Cross station (Grove Park line). The roadway however turns 5° west and is found again on the top of Blythe Hill, where it can be traced as a hard surface of gravel across the clay subsoil, but only small sections are intact.

The top of this hill provides a fine sighting point. Southward the whole line of the road can be seen as far as Tatsfield and to the west of north there is a clear view of London at old London Bridge. The road now takes this direction, turning another 8° to the west. At the foot

[2] Compare for example Ebsbury, *Wessex from the Air*, 120.


0.5'
0.0'
51°30'
OLD KENT ROAD
DEPTFORD
50
154
BLACKHEATH
200
100
PROVED
200
LEWIS
HAM
100
R. POOL
R. RAVENSBOURNE
BROMLEY
OF
BECKENHAM
ROMAN
HAYES
WICKHAM
SURREY
ROAD
30"
51°20'
SCALE
1
2 MILES
0.5'
0.0'

of the hill a section showed 21 feet width and 7 inches of gravel on the large flints.

The same line takes one in something over half a mile to the London Playing Fields and here the road is intact for 300 yards. Part of it was in use in the 18th century and had been repaired, but other sections gave the usual construction untouched. Since 1800 it has been buried under 21 inches of clay, probably from the excavations made for the Croydon canal.

Beyond the Lewisham boundary, the Surrey boundary follows the line of the road for a short distance and the Deptford boundary for some distance further. The rest is built over, but the line is leading straight for London Bridge, and this makes one wonder whether this was not the earliest road towards the city from this direction. If the Rochester road had been there the quickest way to make the junction would have been to continue the original line due north. If it be argued that the Thames marshes would interfere with the direct approach to the bridge from this direction, the road might easily have taken a direction slightly more to the west from Blythe Hill to avoid them, but in fact it is on the straight course along the low-lying ground. Presumably the Rochester road joined it somewhere near where the Surrey canal cuts the Old Kent road. BERNARD F. DAVIS.

THE MAGLEMOSE HARPOONS

Mr THOMAS SHEPPARD, of the Municipal Museums, Hull, writes as follows :—

' In ANTIQUITY for March, H. and M. E. Godwin describe British Maglemose harpoon sites but no mention whatever is made of papers written to show that the Maglemose Harpoons at Hornsea and Skipsea were forgeries. Whether this view is accepted or not, it is only fair that such information should be given to enable students to judge both sides of the question. When these harpoons were examined by a special committee appointed by the Royal Anthropological Institute (Sir Hercules Read as chairman), it was recorded that both were unquestionably the work of one individual. This being so, is it not remarkable that, after 4000 years—the alleged date of the harpoons—both should have been found within a few weeks of each other by one individual, and that one harpoon, according to the finder, was in a glacial deposit and another in a post-glacial deposit ? Further, a special committee appointed by the British Association demonstrated that there was no peat at Hornsea where one of the alleged harpoons was said to have been found (see *Naturalist*, May 1930) '.

Recent Events

The Editor is not always able to verify information taken from the daily press and other sources and cannot therefore assume responsibility for it.

In the Ashanti rising of 1900, the war fetish of the nation was captured by the faithful levies under Captain (afterwards Sir Cecil) Armitage, and presented to him. It proved to be a bronze tripod ewer of English workmanship, dating from the 14th century. At the same time there was found a silver standing punch bowl with the London hallmark of 1666–7, which had been repaired by native methods. Both these most curious monuments of early trade between England and Africa have been purchased by the Christy Trustees, and presented to the Museum. (*British Museum, Bulletin of New Acquisitions*, 10 June, 1933).

A joint committee has been formed by the Letchworth Naturalists, the Hitchin Regional Association and the Baldock Society for the excavation of Willbury Camp (see ANTIQUITY, 1931, v, 69). The pottery already found in the camp is of Early Iron Age A and Belgic types, and there are records of Roman objects being found there. The work will be carried out under the superintendence of Mr E. S. Applebau 1.

The British School of Archaeology in Iraq (Gertrude Bell Memorial) is now a going concern, with an income from subscriptions and endowments of about £700 a year. It has already carried out one season's excavation at Arpachiyah, near Nineveh, under the direction of Mr M. E. L. Mallowan. This has revealed two occupation layers on a village site, an outer layer with painted egg-shell pottery of northern affinities and a later layer with southern and eastern affinities. The latter is estimated to end about 4000 B.C. Work is to be continued, and subscriptions are invited. We cordially support the appeal (Hon. Secretary, British School, 20 Wilton Street, London, S.W.1).

Amongst the projected activities of the School are the publication of a journal devoted to the archaeology of Iraq and neighbouring countries, the foundation of a studentship or travelling fellowship tenable in Iraq, and the formation of a library. The work of organization in the first instance and its programme and achievements up to the present show that the School is being capably directed and fully deserves the support of those who can afford it. (Information from 1st Report of School, circulated by post, and from *The Times*, 5 May, and *Illustrated London News*, 13 May, p. 686).

The Roman bust which was found in the neighbourhood of Acireale, near Catania, in 1730, was identified first as that of a faun, then as that of Cicero, and finally, 'with much hesitation', as that of Julius Caesar. We can easily understand the hesitation with which the art-experts passed from a faun, via Cicero, to Caesar, and wonder who it will be next? (*The Times*, 5 May).

The National Monuments Advisory Council has submitted to the Government of Ireland a scheme for an Archaeological Survey of Ireland—a formidable but necessary undertaking. (*Irish Press*, 9 May). We throw out the suggestion that a Map of Ancient Ireland (say in the Early Christian era) would be a commendable and profitable venture. Details to be had on application.

Mr A. Jackson has examined some of the predynastic grain found in the Fayum by Miss Caton Thompson. He finds 'that this prehistoric barley was to all intents and purposes identical with that in cultivation in Egypt at the present time, and clearly distinguishable from the barleys now grown' in other Eastern countries. He concludes that, 'since no appreciable improvement can be seen to have taken place in it during the last seven thousand years, a very long time must have been needed for this barley to have developed from the wild state to the degree of perfection which this specimen shows; in other words, the origin of agriculture must have been long before 5000 B.C.' (*Nature*, 6 May).

The discovery of a human skull and other bones by a man ferreting led to the excavation of a cave at Largalinny, near Derrygonnelly, co. Fermanagh. ' Few detailed finds were made, but they include, besides human bones, several bones of animals . . . The place had been a small natural cave which had been enlarged . . . A flat space in front . . . had been roughly paved, and the entrance finally sealed with stone walling. It thus resembles closely the type of big stone monument known as the horned cairn '. (*Belfast News Letter*, 16 June).

A similar cave, as it would appear, was found at Gop, Flintshire (see ANTIQUITY, 1927, I, 419, plan) and was regarded as last used for sepulchral purposes. It is becoming clear that long barrows and cairns and megalithic burial-chambers generally are *typologically* associated with caves ; and that they may represent an attempt to construct above ground an artificial cave-dwelling for the dead. In other countries these rock-cut tombs are closely associated with megalithic burial-chambers (*e.g.* in central and southern France, in the Balearic Isles, and at Roknia in Algeria). But, plain though the typological connexion seems, the actual historical evolution is still very obscure. The subject is, however, too abstruse for treatment here, and we shall deal with it more fully on another occasion.

Another matter which is ripe for treatment is the racial character of the neolithic inhabitants of Britain. The orthodox view that all such were long-headed is incontestable, unless we regard the earliest beaker immigrants as neolithic (which we do not). But the opinion that the long barrow people belonged to the Mediterranean race is, we think, much less certain. It is more likely that they were a branch of the Nordic long-heads, and came to Britain by the usual continental routes from northern Europe. This theory is supported by some skeletal evidence, and is much more consistent with the archaeological evidence.

Professor Rostovtzeff has described in a lecture delivered to the British Academy the Biblical paintings which he has found in a synagogue and a Christian chapel at Dura, on the Middle Euphrates,

midway between Antioch and Seleucia. From the evidence of coins it is considered that Dura was evacuated soon after the middle of the 3rd century A.D. The frescoes, which have Aramaic inscriptions, represent cycles of Biblical history—of Moses, the Kings, the Ark of the Covenant, of the Desert, and scenes in the lives of Elijah and of Ezekiel. An abstract of the lecture is reported in *The Times*, 13 July, p. 9.

The Expedition formed under the auspices of the British Museum and the British School of Archaeology in Iraq has completed the first season's work at Tal Arpachiyah, a prehistoric mound in northern Iraq, near Nineveh. On the highest ridge of the mound were found 10 different village-sites superimposed on one another. The top four settlements revealed painted pottery closely related to the " Ur Al 'Ubaid ware " of the earliest South Mesopotamian cities. On other levels quite a different type of ware was found. In the sixth settlement treasure of great interest was discovered in a house which had been destroyed by fire, and the roof had fallen and buried a large collection of painted pottery, stone vases, terra-cotta, and cult figurines. Against the walls were a number of extraordinarily well-preserved painted vessels and remarkable polychrome plates, some in three colours. (*The Times*, 14 July, p. 13).

Sir Flinders Petrie reports in *The Times* (2 June, p. 10) on the work for the third season of the British School of Egypt at Old Gaza (Tell el Ajjūl). The earliest palace site, about 3200 B.C., found last year, was cleared. Other work included the examination of the cemetery, where the family tomb of an Egyptian governor of the time of Tutankhamen was opened. It contained a quantity of Aegean and Cypriote pottery as well as vessels of alabaster and bronze.

The excavations at Khorsabad, directed by Dr Frankfort for the Oriental Institute of Chicago, have been rewarded by a discovery of the first importance, nothing less than a complete list of Assyrian Kings, with reign-lengths, going back to the third millennium. This, if there are no gaps, will not only provide a secure chronology, but will probably also, by means of synchronizations, place the Sumerian

lists upon a secure footing. Thus the chief outstanding and absolutely fundamental problem of archaeology seems likely to be nearing a satisfactory solution (*Zeitschrift für Orientforschung*, Band 8, heft 6, p. 328).

The American School of Prehistoric Research, directed by George G. MacCurdy, is turning its attention towards Yugoslavia and the Danube lands. Here, as we have long maintained, lies the solution of many basic problems of European prehistory. The region at the confluence of the Save and Danube contains a galaxy of first-rate sites (such as Vučedol and Jakovo) still awaiting expert treatment. The May Bulletin (no. 9) reports on the activities of the School, which include general reconnaissance, and excavations at Starčedol, and a valuable anthropometric reconnaissance in the virgin field of Montenegro. Dr McCown reports on the fossil men of the Mugharet es-Sukhul.

Dr E. Cecil Curwen reports that he has cleared at Harrow hill, near Worthing, Sussex (6 inch, 50 SE), the complete ground-plan of a late Bronze Age–Hallstatt hut surrounded by post-holes. He has also found a Neolithic pit-dwelling with hearth, much ash, Windmill Hill pottery, rough flint knives, scrapers, two axes—one of which is polished and the other of typical flint-mine type ; both are fragmentary and burnt in the fire. The dwelling is about half a mile from the Harrow Hill flint mine and may be that of a miner.

Professor V. Gordon Childe and Mr Mansfield B. Forbes have resumed the examination of the Stone Circle (recumbent stone type) of Old Keig, near Alford, Aberdeenshire, which last year yielded in a trial excavation pottery of Scarborough-Hallstatt type.

Dr H. Frankfort has contributed two articles to *The Times* (10-11 July) on the important discoveries made at Tell Asmar, some 50 miles from Baghdad, which has been identified with Eshunna. In the first article are given some interesting details of domestic architecture of Akkadian times, described from a well-preserved house typical of many others which are almost intact. One of the most marked features is

the advanced system of sanitation revealed. The second article includes a reference to the list of Assyrian kings already mentioned and of an inscribed monument which led to the discovery, in an almost deserted valley, of the remains of extensive water-works of which a remarkable feature is an aqueduct of magnificent ashlar masonry 900 feet long and 75 feet broad in its widest part. A fully illustrated article by Dr Frankfort was also published in *The Illustrated London News*, 15 July.

Among the finds at Tell Asmar was a hoard of copper objects, enclosed in a pot. These have been examined by Dr Cecil H. Desch, of the National Physical Laboratory, who in a letter to *The Times* (28 July, p. 15) says that ' among them was a bronze open-work dagger handle, in the slot of which was still wedged a fragment of material, evidently derived from the original blade. A lump of similar material was loose inside the handle, being too large to fall through the perforations. On analysis this material proved to be rusted iron, converted as usual by long contact with the earth into a hard, magnetic, crystalline mass. The position in which it was found leaves no doubt that the blade of the dagger was of iron. Moreover, analysis shows that this iron is free from nickel, and is therefore not of meteoric origin '.

' The find is stated to be of the same period as those at Ur and Kish . . . The occurrence of an iron object of terrestrial origin at such an early date is most striking, and of the first importance for the history of ancient metallurgy '.

The Academy of Athens has continued the excavations begun some three years ago with the object of finding the site of the Academy of Plato and is of opinion that the foundations of the building have undoubtedly been discovered. The evidence for these conclusions is given in a report to *The Times*, 22 June, p. 13, with illustrations 23 June, p. 18.

In *The Illustrated London News* for 3 June (p. 802) Mr George Horsfield, Director of Antiquities in Transjordan, gives an account of Kilwa, in the Jebel Tubaiq, near the Hedjaz frontier, which he describes as ' a new station revealing for the first time the presence of Arabian prehistoric man '. Some remarkable rock-drawings are illustrated.

Reviews

GREEK COINS : a history of metallic currency and coinage down to the fall of the Hellenistic kingdoms. *By* CHARLES SELTMAN. *Methuen, 1933. pp. xii, 311, 9 text illustrations, 4 maps and 64 plates.* 25*s.*

This is the most convenient, the best illustrated and the clearest handbook on Greek numismatics available at a modest price. The author and publishers are to be congratulated, for the book will serve the historian, the amateur collector, the specialist who wishes to find a brief statement of the latest and most important theories, and the student of Greek art as such.

Mr Seltman has made a readable book which is distinguished by a clear emphasis on the continuity of the subject and of the steady development of economic ideas. For Greek currency has a definite and continuous history in which, time and time again, the historian can detect the workings of cause and effect according to the economic laws of the period. To modern economists the use of gold in currency will be studied with particular interest. Mr Seltman shows in his earlier chapters how a mere metallic currency based on weight becomes money when those weights are standardized, and how money becomes coinage when those standardized issues are franked by authority. Such franking produces the heraldic device on the metal, and so metal as such becomes a coin. The first plate in the book is of great value since it illustrates this development and shows how the ring or pellet of gold slowly turns into the stamped coin.

Gold and bronze were the currencies of the Bronze Age in Greece because Greece at that time seems to have had but little access to silver. Later, as the mines of Laurium and Pangaeum became available and historic mainland Greece was no longer able to tap the sources of gold known to the Mycenaeans, silver became the sole vehicle of a monometallic currency. Gold remained in use in the regions where it was most common, such as Anatolia, and was only resorted to in times of crisis when supplies of silver ran short in the regions where silver had been the main vehicle. Later in the 4th century when Philip and Alexander drew on the new goldfields of Pangaeum the world was flooded with gold coinage as part of a bimetallic system.

What is so significant about ancient currency in Greece is that it never became a monopoly in private hands and that tyrants or kings struck their issues solely for their citizens, and for the commercial purposes of their dependants. Banking as such seems to have developed in the temples rather than in the palaces.

One ancient economic law that is now no longer in operation can be traced operating at various periods : as supplies of silver or gold suddenly increased by unexpected discoveries of ore, so the weight of the standard coin increased slightly to keep pace with the increased cheapness of the metal. But this law no longer operated after the 5th century, for the gold coins of Philip and Alexander introduce the modern law, according to which currency increases in issue rather than in weight as metal becomes

cheaper. This ephemeral nature of what are called monetary ' laws ' is interesting in view of the insistence of economists upon the immutability of ' laws ' in general.

In technical matters Mr Seltman here incorporates in brief much solid research work that he has already published elsewhere. The difference of life between the obverse and reverse dies is a distinction which has made it possible to establish many important chronological distinctions and series on purely internal evidence. The overlap of the series first issued by Pisistratus with that issued by his opponents who succeeded his exile can be established scientifically by the fact that the later issue uses a reverse punch employed for the earlier. Another important means of establishing a group is a classification based on similarities of *fabric*. For it must be remembered that coins more than any other objects of archaeological study depend for their arrangement and classification upon internal evidence. Their migratory habits make evidence of location of little value, and their continuance in use for long periods makes them of little use as evidence for dating except in a very limited degree. Coins themselves must yield up their own secrets. Technique, fabric, inscriptions and artistic style are the means by which their sequence is mainly fixed. Literary records are few but what there are help considerably. The author has drawn upon them and made full use of all that Greek history and literature tells us.

In some matters Mr Seltman is a little dogmatic, in others a trifle too optimistic. His statement (p. 3) that ' among the nations that first hoarded gold, art, contemplation and literature first had their birth ' fails to carry conviction when we examine Ireland of the middle Bronze Age or Transylvania in the later Bronze Age. These were no homes of literature or contemplation nor were the Incas and Aztecs the originators of culture in the New World of the type suggested. On the other hand Homer was written in an impoverished world and the Norse sagas were the product of a culture which was not deeply imbued with the gold-lust.

Mr Seltman confidently identifies the issue of coins made by Pisistratus in exile in Macedonia by means of the peculiar *theta* on the reverse. This *theta*, composed of dots, is thought to indicate, in the manner of coins, the well-known sun-symbol or rosette so common in Macedonian coinage. This is frank theory posing as fact. He admits that the coins are barbarous in fabric and the obvious conclusion to be drawn from the dotted *theta* would be that the artist, incompetent as he was, found it extremely difficult to describe a small circle with his drill without letting the drill slip. The easiest way out of his difficulty would be to make the circle by means of a series of vertical pressures of the drill. This is the commonsense explanation of this particular characteristic of the coins, and to attribute a series to Macedonia on this evidence is most precarious. All early die-cutters and gem-cutters find the greatest difficulty in using the drill at an angle, especially where very small circles are to be made. Mr Seltman's own plates VII, VIII, IX and XI show clearly how die-cutters of Sicily, Macedonia and Euboea, faced with the problem of cutting a circle, dodge it by making the circle of dots. If after making your dotted circle you run over it with a graver, or even with the drill, once the circle has been laid out, you can make a plain circle. This is done, for instance, in the aristocratic issues of Athens seen on plate III.

In another case Mr Seltman is too optimistic. The issue of Olynthus with a fine design of a cow he thinks (p. 69) is ' Minoan ' in appearance and suggests that Olynthus originally held a Mycenaean settlement. Certainly Mycenaean elements are common in Chalcidice, but they do not antedate 1200 B.C. and if Mr Seltman is prepared to identify this design as ' Minoan ' then he must equally agree that the superb Euboean

coins of plate XI are equally if not more ' Minoan '. Yet in the latter case his explanation for the use of the cow design is that Euboea was ' the land of fine cattle '. He cannot have it both ways.

There are some minor points that deserve comment. The head on the coins of Potidaea (p. 67) is not of Aphrodite but of an Amazon wearing an *alopekis*. Dipoinos and Skyllis did not bring over the art of sculpture from Crete to Greece ' in the seventh century ' (p. 173).

General readers—and there will be many of this admirable book—will be amazed to see a representation of Jehovah (plate XXXII, 1) labelled as such on a coin of Philistia, as they will also be to see on a Thessalian coin (plate XXXIV, 13) a strange vehicle used for producing rain. For there is no end to the odd information which coins provide.

For those who are interested in the diffusion of design I can commend the passage with which Mr Seltman concludes his excellent account of the coinage of Philip of Macedon : ' That,' he says, ' is the strange tale of how the beautiful 5th-century head of Apollo, created when Olynthus broke away from the Athenian Empire, ended up in 1st-century Yorkshire as a blob '. STANLEY CASSON.

MAN AND METALS : a History of Mining in relation to the Development of Civilization. *By* T. A. RICKARD. *McGraw-Hill Publishing Co.*, 1932. *Two volumes, pp.* 1068, *illustrated.* 50*s.*

This work, long expected, has come to us in a somewhat unexpected form. We had looked for a technical history of early mining and metallurgy, of which four instalments had already appeared between 1926 and 1930 in the shape of papers read before various learned Societies. Mr Rickard's preface, however, places the work in a new light. Its genesis is to be found in Wells' *Outline of History*, which in Mr Rickard's opinion paid insufficient regard to the rôle of the metals in the development of civilization. Thus *Man and Metals* is partly historical—containing summarized accounts of periods in human history ranging from the early Stone Age to disquisitions on mining law and mining adventure in Mexico, California, Australia and South Africa. On these chapters, interestingly written as they are, we do not propose to touch. Each has been submitted to a group of experts for criticism and is furnished with a full bibliographical appendix. The statements also in the text are connected by numerical references with their respective sources.

Nevertheless the substantial value of this work rests upon Mr Rickard's handling of the data relating to the history of early mining and metallurgy. For this portion of his work we have little but praise to offer. The chapters, for instance, on ' The Early Use of the Metals ', and ' The First Use of Iron ' could hardly be improved upon. In the former chapter, it is true, the early use of gold is somewhat summarily treated. Mr Rickard's views are not expressly stated—but he appears to hold that the metal when first discovered was not greatly esteemed and contributed little to the early development of civilization. ' The use of native copper ', he says on p. 108, ' marks the beginning of every ancient metal culture '. Native copper continued to be used for fully two millenniums before the art of smelting the metal from its ore was found out. ' The age of metals did not begin until man discovered that he could fashion them by aid of fire ' (p. 113). For this discovery Mr Rickard is content to accept the ' Camp Fire ' theory, with the proviso that the accident of the reduction of the ore into metallic globules must have recurred with sufficient frequency to have established in the minds of the natives

that the application of heat to the ore always resulted in the appearance of the metal. Here, we think, Mr Rickard is on right lines ; but when he attempts to refute (pp. 144 and 859), the assertion of Dr Percy that the extraction of malleable iron is of all metallurgical processes the most simple, it is clear that the two authorities are not really opposed —for Dr Percy, no doubt, assumed that when iron was first successfully smelted charcoal was used, whereas Mr Rickard's contention is that malleable iron could not have been made in the camp fire. Unfortunately our knowledge of the various fuels used by different races in the production of pottery, glazes, glass and the metals is imperfect. The subject appears to have been somewhat neglected by archaeologists. In Asia and in Egypt, however, painted pottery, glazes and glass had been made, prior to the discovery of iron-smelting, in kilns or furnaces with the aid of dried rushes, straw, brushwood or billets of dried wood. In 1925 Sir Flinders Petrie told the Newcomen Society that in Egypt at a very early date the blue glaze (a silicate of lime and copper) was made in closed saggars in sunken furnaces at a constant temperature of *c.* 860° C, maintained for 24 hours with the use probably of straw fuel only. This argues a high degree of technical knowledge in temperature control which was peculiar to Egypt.

It would be difficult to state positively when the discovery of the artificial production of charcoal was made or for what purpose. Quiquerez in his *L'Age du Fer* suggests that it was found out in smothering the camp fire with turves, and he points to a site of charcoal burning in the Jura to which a speculative date of *c.* 2000 B.C. may be assigned. It may, therefore, be inferred that charcoal-burning was known several centuries before the discovery of iron-smelting. As Mr Rickard points out, the reducing flame of charcoal was an essential element in the early production of malleable iron.

Over subsequent chapters, mainly historical, but often containing much sound metallurgical information, we must pass rapidly. The one on the Cassiterides, written in 1926, has to a large extent been superseded by Mr Hencken's chapter on the prehistoric tin trade in his *Archaeology of Cornwall and Scilly*, 1932. The chapter on the Athenians and their silver mines is a useful one, as the authorities for it are mostly French and not easily accessible. Mr Rickard, moreover, writes from personal acquaintance with the Laurium mining district.

A few omissions and errors may be mentioned—perhaps the most notable being the omission of any account of the copper finds in Susa I, the capital city of Elam *c.* 5000 B.C., and of the Solubba, the despised tinkers of Syria and Arabia. For the latter Mr Rickard should consult Doughty's *Travels in Arabia Deserta*, pp. 280–4. 'Mining in Medieval Times' deals with the non-ferrous metals with illustrations from Agricola. The history of iron already dealt with in 'The Early Use of Metals' is resumed in two chapters—'The First Use of Iron', already referred to, and 'Iron in Human Industry'. There is a good deal of unnecessary repetition between the first two chapters. The account of iron mining in the Forest of Dean is inadequate, the writer not having consulted Miss M. L. Bazeley's paper in the *Trans. Bristol and Gloucestershire Archaeol. Society*, XXXIII, 153–286. Mr Rickard has relied upon Nicholls, who is an untrustworthy authority for the medieval period. The 72 forges for instance, quoted by him (p. 879) from Nicholls are obtained by adding together two lists of past and present tenants respectively. For the Sussex Iron Industry Straker's *Wealden Iron*, 1931, should not have been overlooked.

The only notice of the manufacture of cast iron in the classical era (p. 886) relates to the Warrington piece found by T. May in 1904. Mr Rickard will be glad of a reference to a report on the Romano-British settlement near Tiddington published by the Stratford-

upon-Avon Corporation in 1931, where the subject is more fully discussed (pp. 17–18). It is clear that the Roman metallurgists could produce cast iron and were acquainted with its properties, but its utilization presented many difficulties which were not overcome for close upon 1000 years later.

Mr Rickard's work has impressed us as being one of unusual value. His chapters are clearly written and the work is well printed, but the volumes are too heavy for convenient handling. E. WYNDHAM HULME.

EARLY CIVILIZATION IN THESSALY. *By* HAZEL D. HANSEN. Johns Hopkins University Studies in Archaeology, no. 15. *Baltimore*, 1933. *pp.* 203, 85 *illustrations*, 4 *maps*. 25*s*.

This concise and convenient study will be most useful. Miss Hansen has done an exceedingly difficult piece of work with great skill. The pre-war researches in Thessaly which laid the foundations of its prehistory are here correlated with the great bulk of Balkan and Central European research that has taken place since. She shows how Thessaly has drawn its influences now from this and now from that direction, and illustrates the course of its cultural development by a close and scholarly analysis of its ceramic.

In the first five chapters she summarizes the evidence for each successive period, fully illustrating it by well chosen plates to show the ceramic, architecture and crafts. In the sixth chapter she attempts to solve the various knotty problems that have developed during the examination of the evidence. The origin of the neolithic culture of Thessaly, with its very high standard painted ceramic, she attributes to a region outside Thessaly, for the earliest wares of Thessaly itself presupposes a long previous development. She rejects Frankfort's Danubian origins and agrees with Professor Childe that Thessaly and the Danube cultures are but two phases of a unified culture which came 'from some unknown point in the east, extending from Anatolia to Leukas during the third millennium B.C.' This explains both the Danubian similarities and the general non-Danubian character of Thessalian wares. But she will accept some direct contacts with the north as well which serve to intensify the Danubian elements. Her analysis of the Dimeni period is as sound a study of this strange interlude as could be desired. She carefully outlines its connexions with Transylvania, Thrace and Bulgaria and shows how all the different branches shared the same characteristics of porched houses, defence walls—the first walled cities in fact—suspended figurines and shoe-last celts. She also makes the important point that differences in local clay caused differences in shape and fabric, a fact all too often overlooked by students who find such differences hard to explain. She summarizes the effect of the Dimeni folk upon prehistoric Greek culture by saying aptly 'they came quietly into Greece and as quietly passed out of existence' but they left 'a lasting impression upon the culture of the Aegean and disturbed the whole region from the Dnieper to the Spercheius'.

Later, she shows how Macedonia sent influences in the Bronze Age down to Thessaly and next came under the all-conquering Minyan control, probably also derived from the north. Then comes the Iron Age with its great Thessalian concentration, preceded by a lively northward thrust of Mycenaean influence that planted tholos tombs in many parts, and gave to the Iron Age inhabitants a tomb-type which they retained for a long period.

This eminently readable book is a solid contribution to our knowledge of northern Greek prehistory. It is the result of research on the spot supplemented by wide reading of pertinent publications. STANLEY CASSON.

THE ANTIQUITY OF THE GREEK ALPHABET. *By* RHYS CARPENTER. *American Journal of Archaeology*, January-March 1933, XXXVII (1), 8–29.

Professor Rhys Carpenter says he has for some time past 'been expecting to encounter in learned journal or epigraphical treatise the authoritative pronouncement that the Greek alphabet was adopted from the Phoenician about the year 700 B.C.' He has been led to this revolutionary view by the accumulated evidence derived from classical and Semitic sources which 'is so thoroughly consistent and emphatic that no other inference is any longer permissible'. The orthodox view would put the date about 200 years earlier.

We are not qualified to review Professor Carpenter's thesis, and we have not the space to summarize it. It must suffice to draw attention to one very important conclusion which must follow if his theory is accepted, namely that the Homeric epics were *orally* transmitted for at least 500 years and probably longer. 'Ancient tradition asserted that [they were written down] in Athens under Pisistratus about 560 B.C. . . . Whether they like it or not, literary scholars must henceforth resign themselves to the archaeological fact that if the Homeric poems were composed before the year 700 B.C., they were composed without the aid of writing. The material civilization and intellectual endowment of 9th (and even 8th) century Greece have been vastly overestimated. Why should we persist in believing that a people who were demonstrably devoid of monumental architecture, sculpture, painting, and most of the minor arts, must nevertheless have been literate—especially when the evidence is overwhelming that they were not?'

It will give us some idea of the implications of Professor Carpenter's challenge if we make a historical analogy:—if transferred to Western Europe and the Saxon Epic of Beowulf it would imply that this poem, relating to events of round about A.D. 400 was not set down in writing until after the Norman Conquest. Oral transmission is not necessarily inexact or unreliable, but modifications are bound to occur during such a long period, and the historical value of 'Homer' is bound to depreciate if Professor Carpenter's theory finds general acceptance. O.G.S.C.

IRANISCHE DENKMAELER, herausgegeben von ERNST HERZFELD. Reihe 1: Vorgeschichtliche Denkmaeler; Steinzeitlicher Huegel bei Persepolis. Lieferung 1: *pp.* 1–12, *pls.* I–XVIII; Lieferung 2: *pp.* 13–18, *pls.* XIX–XXX. *Berlin: Dietrich Reimer-Ernst Vohsen Verlag*, 1932. Each part 18 RM.

It is a remarkable fact that each new increase of our material adds evidence for the cohesion and essential homogenity of the chalcolithic Iranian Highland culture, while the extreme variety of its best known product, the painted pottery, testifies to its vitality in the early stages. The pottery from Persepolis has as much a character of its own as that from the other Iranian sites, but its motives supply numerous links with Susa or Mohammedabad, Samarra or the sites explored by Sir Aurel Stein in Baluchistan. The position is exactly similar to that observed by Wace and Thompson in prehistoric Thessaly, where the painted pottery of the A-period is a clearly homogeneous product, while it is yet possible to distinguish the local schools' individual variations on the common theme to such an extent that within one layer at one site importations from contemporaneous neighbouring sites can be recognized.

The question naturally arises whether we can distinguish successive phases in the development of such a cultural province. Since the notion 'Susa II' has been proved to be entirely fictitious, we have to resign ourselves for the moment to the absence of the

direct evidence of superimposed remains in Iran. An imported vase from Susa found at Ur, another vase found at Susa and containing Early Dynastic (*i.e.* definitely pre-Sargonid) Mesopotamian seal-cylinders illustrate a late stage of the Iranian Highland pottery; for a relative chronology of the earlier stages we are exclusively dependent upon one single criterion—that of style. This criterion need not be subjective but it requires elaborate treatment and careful detailed comparisons to produce objective results.

In the few paragraphs which Herzfeld devotes to this aspect of his discoveries assurance and assertion take the place of arguments. Fortunately the figures on his plates show unambiguously that the pottery from Persepolis belongs [with that of Susa I, Tepe Khazineh and Samarra] amongst the earliest wares which we happen to know from the Iranian Highlands. While it is impossible to argue here this statement in detail, we may refer to the survival of animal designs at these four sites which, as we know, tends to disappear in the progressive geometrization to which their ceramic decoration is subject. The pot-forms of Persepolis, showing as little differentiation of the structurally important parts as those from Susa, and much less than those from Samarra or Al'Ubaid, confirms this statement. Whether we can go further, and establish the relative chronology of the wares of the three sites mentioned instead of merely stating their approximate contemporaneity, seems doubtful to the reviewer. For the speed with which the disintegration of design and the evolution of pot-forms take place, is strongly influenced by the artistic forces at work in the various centres.

Herzfeld asserts that there is an external argument in favour of precedence in time of Persepolis. He dubs the settlement which he discovered ' neolithic '. But the very homogeneity of the Iranian Highland Culture, which everywhere else appears in possession of copper, must make us loth to accept such a statement without very good reason. Let us remember that M. Dunand reported at the Congress held in London during last August, how the chalcolithic necropolis of well over 200 graves which he investigated at Byblos appeared first of all to him to be neolithic, and that only in the 54th grave which he cleared there appeared some well-developed copper daggers, which have now found their counterparts in a few other graves of the necropolis. And, indeed, far from finding good reasons to call Persepolis neolithic Herzfeld states that a thin wristlet of copper foil was found and also a thin triangular dagger blade. If we remember the tremendous changes which the introduction of copper brought about, there seems not to be the slightest ground for putting Susa I on the one side of the division-line and Persepolis on the other.

As to remains other than pottery, there were found numerous flint tools, but no obsidian, no rock crystal and no lapis lazuli. Furthermore, clay sickles and clay cones with bent ends, also painted clay figurines of a goat and a bull and pierced sherds of painted pottery for use as ornaments and furthermore some alabaster vases and a high conical vase of black stone, all of which features find their counterparts at Susa I and in the Mesopotamian layers which are related with Susa I.

The publication is beautifully, even lavishly, produced. H. FRANKFORT.

SEE FOR YOURSELF ; a field-book of sight-seeing. *By* EDMUND VALE ; drawings by RUTH VALE (Hutch). *London and Toronto : J. M. Dent*, 1933. *pp.* 288. 5*s.*

This is a pleasant and original book. It is quite well written, and is eminently readable, the numerous ' red herrings ' contributing to its readableness rather than otherwise. The author speaks from a wide range of first-hand experience (which palliates much), and his reading has been well chosen. Much of the earlier portion is

obviously based upon articles published in ANTIQUITY (as he gracefully acknowledges on p. 19). It is refreshing to find one who realizes that the modern archaeologist is the friend, not the haughty foe, of the sightseer. The book is intended for hikers and such like, but even the expert will find bits of it useful; the prehistorian mainly in the medieval part and the medievalist in the prehistoric part. We venture to recommend one of our own productions as likely to provide facts for another edition, namely, 'Field Archaeology' (H.M. Stationery Office, 1933, 6*d*). The one serious shortcoming is the omission of a select list of books on each subject, for wet days.

The shortcomings, though rather numerous, are fewer than usual in books of this kind, and are mostly concerned with points of detail. Dubois is a Dutchman, not a Swede (p. 23). Artifacts have now been found associated with the remains of Sinanthropus (p. 24; see ANTIQUITY, VI, 508). 'Eoliths' are by no means generally accepted. The bad, but recognizable, drawing on p. 24 seems to be rather an 'eolith' than a 'rostrocarinate', as it is called on p. 218; but 'rostrocarinates' are also, in the opinion of many experts, of purely natural origin. Palaeolithic art began in the Aurignacian, not the Magdalenian, period (p. 25). The suggested raison d'être of Stonehenge and Woodhenge (pp. 34 ff) is one of the best we have come across; but their sepulchral associations also must not be overlooked. The beaker-folk buried their dead; they did not cremate them; cinerary urns are later, and belong to the middle Bronze Age. The paragraph is confused, and needs rewriting (p. 40). Old Burrow is a Roman signal-station, and had already been excavated (though not recognized) when Allcroft's account was written (pp. 43, 44). C. Hawkes is correct (p. 45); the singular form (elsewhere) is wrong. Roman villas (p. 59); I sympathize, but mosaic pavements are a draw, and have their uses, as some excavators know well. There are remains of a Norman house at Southampton, but they are very little known. 'Dolmen' has been expunged from the vocabulary of the best archaeologists, and replaced by 'burial-chamber'. It is a fake-word. 'Burial-chambers' are *certainly* sepulchral (p. 207). *Allées couvertes* are passages leading to burial-chambers and are quite distinct from alignments (p. 208). Hut-circles and beehive huts are not necessarily the remains of identical objects. 'Broch' is not synonymous with fort and the words quoted; brochs were a very special form of dwelling (p. 210; see ANTIQUITY I, 290–8). There are very many ordinary hill-forts in Scotland (see Christison, *Early Fortifications in Scotland*, Blackwood, 1898).

More space should be given to lynchets, and the differences between the Celtic and Saxon systems of cultivation explained; lynchets are very common objects of the countryside, and puzzle most sightseers. Apart from articles in ANTIQUITY by Dr Curwen, the latter's account of lynchets in the Report of the thirty-ninth Congress of the Research Committee for 1931 (Soc. of Antiquaries, Burlington House) is recommended for study before the next edition is issued.

We cannot commend the illustrations. The courtship of caterpillars on p. 57 is cartographically obscene, and so is the plan on p. 211. O.G.S.C.

TELL HALAF: a new culture in oldest Mesopotamia. *By* Dr BARON MAX VON OPPENHEIM. Translated from the German by GERALD WHEELER. *G.P. Putnam's Sons*, 1933. *pp.* XVI, 337, 64 *plates in half tone*, 4 *plates in colour*, *text figures and maps*. 21*s*.

This is the English translation of a book already reviewed in ANTIQUITY,* and is substantially the same as the German edition of 1931. Perhaps the most important

* Vol. VI, 246-7.

development since the original publication, with regard to the archaeology of the Near East, is the fact that pottery similar to the earliest painted ware of Tell Halaf is stratified at Nineveh, a hundred miles eastward, being the earliest ware of that site. It should, perhaps, be added that as soon as the Bronze Age begins, there appears to be no parallel between the two sites until the Assyrian period.

Tell Halaf is a site of very great importance, and though its civilizations cannot readily be linked with others elsewhere as yet, it is all the more interesting as displaying cultures of which nothing was known heretofore. In this book, which is not a technical report, Baron von Oppenheim has written, in a charmingly lucid way, a clear and straightforward account of his work and his discoveries. The book, moreover, contains valuable appendices by Hubert Schmidt, Herzfeld and others, on the pottery, sculpture and other technical points. It is translated remarkably well.

The full report of the excavation is promised in the near future, and will be of the greatest value to archaeologists. Meanwhile, this book, with its many illustrations, some being coloured, is most useful to experts, as well as being extremely interesting and instructive to everyone, however inexpert, who is curious about the life of men in early days in the Near East. Probably no one man has done more to advance our knowledge of the early civilizations of Western Asia, since Schliemann, than Baron von Oppenheim, whose courage, industry and enthusiasm alike deserve our highest praise.

THEODORE BURTON BROWN.

LES ORIGINES DE LA SOCIÉTÉ, vol. I. *pp.* 45–58. Sociologie préhistorique—âge de la pierre. *By* L'ABBÉ BREUIL. *La renaissance du livre*, 78 *Boulevard Saint Michel, Paris*, 1932. 15 *francs.*

Even the lighter works of one who is armed with such a wealth of first-hand knowledge as the Abbé Breuil are worth close attention. When, as here, that knowledge is directed into sociological channels, we become particularly attentive. Nor are we disappointed in the quality, but only in the quantity, of what we are given. The material with any claims to be called ' sociological ' is, in the Abbé's own period, so scanty that two pages suffices, for example, to enumerate the bare facts of this order recorded for the whole of the Lower Palaeolithic period (Sinanthropus to Mousterian). Nevertheless it is just this catalogue which is so useful. So far as I know it is the first time that such a selection has been actually made.

During the Mousterian period Neanderthal man buried his dead in caves ; and there are slight suggestions of what may have been magical practices. Ceremonial burial is relatively common during the Upper Palaeolithic, and it is interesting to note a hut-burial at Solutré. The burial of the dead in the abodes of the living (whether huts or caves) has therefore archaeological evidence to support it, and may be cited by those who maintain (on typological grounds) that megalithic burial-chambers and rock-cut tombs are a later stylized or specialized development of this custom.

There follows a brief narration of the chief culture-areas of the Upper Palaeolithic, and of the art of the caverns. The Abbé concludes that the dark recesses of the caves where such wall-paintings occur (sometimes more than a kilometre from daylight) ' were the scene of ceremonial rites concerned with the increase of desirable animals, the successful achievement of hunting expeditions and the destruction, by magic, of dangerous animals '.

It is a relief to find sociology brought down to earth at last ; and if the fare is scanty it is at least solid and edible so far as it goes. Only by historical methods, such as those here employed, can we achieve any real advance in our knowledge of the *actual* evolution of human society. The rest is mere theorizing. O.G.S.C.

ETNOLOGIA DE LA PENINSULA IBÉRICA. *By* Dr P. Bosch-Gimpera. *Barcelona : Editorial Alpha*, 1932. *pp.* xxiv, 711, *with* 542 *illustrations and maps. Price not stated.*

On taking up this book, one cannot help but feel that Spain has found its Déchelette. Like Déchelette, Dr Bosch-Gimpera is a scholar with an extremely wide background. His early training in Germany, his intimate knowledge of the different European archaeological literatures and his unrivalled mastery of the archaeology, not only of his own country, but of the whole Iberian peninsula, single him out as the ideal man to undertake a work of such scope.

To English readers, apart from the chapter on ' External Relations prior to the Phoenicians ', chapters xviii–xxi, on the Celtic elements in the population, are of special interest. According to the author these fall into two groups : (*a*) the Urnfield population of northeast Spain ; (*b*) the peoples of the Late and Post-Hallstatt culture, best represented in the west of the peninsula and in east Castile. Some think the latter were in touch with southwest Britain, while the former, though indirectly, is probably also connected with this country. The *Eimerurnen* from the Catalonian Urnfield of Punta del Pi (fig. 421, *d* and *e*) are surely of Rhenish origin (cf. *Prähist. Zeitschr.* 1919–1920, p. 143), while fig. 421 *e* is probably connected with certain British pail-shaped urns (cf. Scarborough, *Archaeologia*, lxxvii, 187). This would indicate that Urnfield movements to northeast Spain and to Britain came from a more or less common centre : the Rhine (cf. too *Prähist. Zeitschr.* 1930, pp. 160ff). The problem is, however, of greater complexity than it at first appears, for the northeast Spanish Urnfield culture is of a mixed character, comprising Rhenish, West Alpine, and other elements. Yet one cannot but feel that the emphasis laid by some on the west-Alpine traits in that culture has tended to eclipse a not unimportant Rhenish element.

It is true also that this late Bronze Age (Hallstatt A and B) culture of the west-Alpine area affected Britain as well as northeast Spain—but how differently ! Its influence on Britain is chiefly to be seen in the metal objects and in a few pile-dwelling sites. Yet in northeast Spain it is represented by the ornamentation on some of the pottery and by certain ceramic forms (types up to the present lacking in Britain) ; metal objects are unknown—not even represented by isolated finds. In Spain, strangely enough, the area of distribution of the carp-tongue sword, a feature thought to be west-Alpine in origin, does not coincide with that of the Urnfield culture.

Unfortunately the Rhenish *Eimerurnen* (which occur in the Lower as well as the Middle and Upper Rhenish areas) are long-lived types and therefore do not yield very precise chronological data.

It is interesting to see that Dr Bosch-Gimpera has lowered the upper date of the northeast Spanish Urnfield period. In Mannus, *Ergänzsungsband*, vi (p. 270), he and Doctor Kraft placed the Urnfield invasion of that region during the 12th or 11th century B.C. In Switzerland and southwest Germany it is difficult to fix the upper limit of Hallstatt A as high as 1200 B.C.—far more so in Spain. Although in the central- and east-Alpine areas there are certain indications that Hallstatt A overlapped with the

proto-Villanovan phase in Italy, there is little evidence for believing that Hallstatt A in Switzerland and southwest Germany began prior to Benacci I. Moreover the Urnfield period (Hallstatt A) must have begun later in these more westerly regions than it did further to the east, seeing that it was from the latter area that the Urnfield civilization expanded into Switzerland and southwest Germany. In view of this, Dr Bosch-Gimpera's new dating (*c.* 1000 B.C.) for the upper limit of the Spanish Urnfields seems more satisfactory.

This review should not close without a word of tribute to the publishers for their part in the production of so noble a volume. As a survey it will remain for many years the classical work on the subject—at all events until Dr Bosch-Gimpera elects to supersede it with a fresh book on the same theme!

J. M. DE NAVARRO.

THE LATEST ARCHAEOLOGICAL DISCOVERIES IN ITALY. *By* FRANCESCO PELLATI. English edition, *translated by* P.R.M. *Printed for the Ente Nazionale Industrie Turistiche, Ferrovie dello Stato, by Treves-Treccani-Tumminelli, Milano-Roma*, 1932. *pp.* 111 *and* 129 *illustrations. Price not stated.*

The purpose of this frankly popular work is to inveigle the public interested in classical antiquities to Italy, by indicating how many remains have been uncovered or restored in recent years. The illustrations alone are enough to tempt anyone, and they are accompanied by a text which was not only lively in its original Italian, but full of interesting detail accurately and simply stated. We are sorry to say that much of the technical detail has been murdered by the translator, and that the text was well bedevilled at the printers. Readers who know some Italian would be well advised to secure a copy of Count Pellati's original text, while others must hope that a second edition will do that text justice. The author is an excellent popularizer and realizes the two essential points, that the English visitor admires the ancient Roman most of all for his technical ability and welcomes technical facts simply stated with the aid of good detailed pictures. Most of the pictures given are astonishingly good, and, in view of future developments in this regard we would say that the type which is particularly attractive is that of the bridge above Finalpia, the gate at Ascoli Piceno, the Vesta-temple and Hadrianeum at Rome, the Tivoli tomb, the Nuraghe Losa, Lindos, and the very exquisite view of Hera's temple rising above the peach-orchards of Agrigento. The sort that is worthless is Comacchio, the Tomb of Augustus and the Roman cemetery at Taranto, for the tourist likes neither mud, darkness nor hot sun and wind. As the work was compiled in 1932, the Rome photographs of the Market of Trajan and the Forum of Augustus are quite out of date, while the Forum of Caesar and the house at S. Rita were worth inclusion.

Criticism of the original text, ignoring the translation, is difficult because the work is ephemeral. But new discoveries need definition, as at Grotta Costantini and Massa Marittima; the Dora Riparia and Dora Baltea are not distinguished; Marzabotto is not a recent excavation and not worth a visit now; the *murus latericius* at Arezzo is not famous, except to specialists in Vitruvius, who are, alas! too few, even in Italy; the account of the temples in the Largo Argentina is weak; the Pantheon dating is odd; and the account of the Servian Wall now needs revision. But what is surprising is how much thoroughly sound information Count Pellati has contrived simply to convey, and how much gets through despite the defects peculiar to the English edition.

I. A. RICHMOND.

CARAVAN CITIES. *By* M. ROSTOVTZEFF. *Translated by* D. *and* T. TALBOT RICE. *Oxford : Clarendon Press*, 1932. *pp.* VIII, 226 *with* 35 *illustrations*, 6 *figures in text*, 5 *maps and plans*. 15*s*.

The Caravan Cities, which form the subject matter of this volume, are the ephemeral commercial centres brought into being by the booming caravan traffic between east and west during the two or three centuries before Christ and the first and second of our era. Although this book is little more than a sketch—an outline for a more detailed work which must inevitably follow, as our knowledge of the bridge between Europe, Asia and Africa increases—yet it comes at an opportune moment, for the region is pregnant with archaeological interest, and its re-discovery goes on apace.

The scene is laid on the eastern confines of the Roman Empire, and the principal parts are played by Petra, Jerash, Palmyra and Dura, and great parts too they created in the dramatic story of commercial intercourse between the Levant and the Indian Seas.

The author gives a graphic account of the origin and development of caravan trade from the earliest times in the Near East, and draws our attention more especially to the condition of this region during those centuries which first produced, and finally destroyed these curious mushroom cities. The chapter devoted to Petra shows the famous rock-hewn emporium in its character as the principle centre of Nabataean culture, and shows also that its rise and fall covered no great length of time, yet its name endureth for ever. The interest of Jerash, on the other hand, lies principally in its Roman or Hellenized Roman period, at times a busy trading centre, at others a military outpost. The author gives ' a general description of Jerash at the time of its greatest prosperity—the 1st and 2nd centuries A.D. No sufficient light has yet been thrown on the difficult problem of what it was before, or what befell it after, that time '.

Palmyra, most independent, richest, and strongest of all these commercial outposts, stood in mid-desert, the port of call for caravan traffic over a vast area. Its position was unique, its career vivid and romantic, while its remains still stir the imagination as few ruined sites do. But it is to Dura and to the communications between Palmyra and Dura that the author devotes most of his attention, and wisely so, for Dura is of comparative recent discovery, and its excavation a quite recent achievement.

Dura, situated on the left bank of the Euphrates, 150 miles due east of Palmyra, was first of all a Selucid and later a Parthian outpost, but as Palmyra grew in importance so Dura rose to eminence, until her status grew to that of a Caravan City. Here we are given a picture, by word and illustration, of its ruined temples, palaces and fortifications, also of its frescoes and graffiti so illustrative of its character as a half-way house between east and west, perhaps the most typical Caravan City of them all.

DOUGLAS CARRUTHERS.

THE STONE AGE CULTURES OF SOUTH AFRICA. *By* A. J. GOODWIN *and* C. VAN RIET LOWE. (Annals of the South African Museum, vol. XXVII). *The Trustees of the South African Museum*, 1929. *pp.* 289, 4 *text-figures and* 45 *plates*. 25*s*.

Before the war the authorities on South African prehistory were J. P. Johnson and Dr Péringuey ; the latter's work was certainly exhaustive, but very complicated and difficult to use. But the post-war years have seen an enormous development of research into the prehistory of South Africa as of other countries, and a wealth of new material is now available. A first glimpse of this was given us by Mr Burkitt in his *South Africa's*

past in stone and paint,[1] and now we have before us a detailed account of the Stone Age material in South Africa, mainly by Mr Goodwin, while Mr van Riet Lowe is principally responsible for the pages on the Smithfield culture ; some parts of the book have been jointly written. The first chapter, by way of introduction, is devoted to the general geographical and archaeological conditions of the country ; chapters 2–4 treat of the *coup de poing* industries, which correspond typologically to the lower Palaeolithic Age in Europe (Stellenbosch, Victoria West and Fauresmith) ; chapter 5 deals with the ' middle ' Stone Age, morphologically similar partly to the Mousterian, partly to the Aurignacian and Solutrean. Chapters 6–10 give an account of the industries of an Upper Palaeolithic type (Smithfield, Wilton), and the concluding chapter is concerned with the South African neolithic survivals.

Our chief difficulty in forming conclusions on the Stone Age of South Africa consists in the lack of thoroughly excavated sites : no certain chronology can be established without stratigraphic evidence. For this reason very different opinions are possible concerning the chronological position and history of the South African Stone Age cultures. It is fairly certain that the *coup de poing* cultures, with their lower Palaeolithic appearance, set in no later than that period did in Europe : but it is a matter for doubt whether they did not last much longer in South Africa than with us. The most widely diverging theories are those concerning the South African ' middle ' Stone Age : Goodwin would see in the Glengrey culture a Mousterian type, a theory which is typologically possible but chronologically less easy to accept. The special type of facet related to it (Still Bay, Pietersburg) must, in my opinion, be ascribed to nothing earlier than a late period of the Upper Palaeolithic Age. Further, Goodwin's attempt to divide the Smithfield culture from the local Mousterian strikes me as very bold. Its relationships with the Neolithic Age of North Africa are in any case much clearer. Many other such criticisms could be made, but they do not in the least impair the worth of the book. For in the circumstances the authors cannot lay claim to establish definite conclusions ; their work is essentially that of pioneers, and a basis for scientific research, a purpose which it amply fulfils.

O. MENGHIN.[2]

OUR PREHISTORIC ANCESTORS. *By* Professor H. F. CLELAND. *Williams and Norgate. pp.* 379, 154 *figs. and* 5 *colour plates.* 21*s.*

The purpose of this book has been ' to describe as briefly as clarity will permit the events in man's prehistory which have been of greatest significance in his progress toward civilization '. There is room for a book soaring clear of that jungle of technicalities in which the big game of archaeology engage in internecine conflict, and stressing for the general reader the essential achievements of humanity, the landmarks of universal history or more concisely of cultural development. Unfortunately this book does not fill the gap. For the specialist it will be dismissed as a scissors and paste affair in which the joins are rather obvious, while it appears to have few qualities likely to arouse the general reader. The figures are numerous but not altogether adequate, and two of the colour plates (frontispiece and plate III) are painful. The book does not interest, still less inspire, because the author does not seem to have got a vital grip of his subject. To

[1] Reviewed ANTIQUITY, 1929, III, 371.

[2] Translated from the German by Roland G. Austin, University of Glasgow.

be a success such a book must be written by an expert who happens to have the gift of writing. Flagrant inaccuracies are rare in this book, though we must protest that Chun Castle is not the best example of a dolmen ! One is irritated rather by the general lack of grip. Thus we find in the glossary (p. 364) : ' *Levallois Flake*. The Levallois flake was made from a flake struck off a nodule. Its importance lies in the fact that in Acheulean times a new technique, which was later to be so important, was evolved '. From this we not only learn nothing of the character of the Levallois flake other than that it *is* a flake, but we are also made to suspect rightly or wrongly, that if Professor Cleland were asked to draw a Levallois flake he would fail miserably. Or again, quoting from p. 229 : ' we . . . find that the Bronze Age pottery of Great Britain and Ireland is little better than that of the Neolithic, notwithstanding the long duration of the Bronze Age '. As a matter of fact most of it is a great deal worse and there are plenty of sound reasons why. The flabby ' progress ' predisposition becomes manifest in many other places, *e.g.* p. 240 : ' The art of the Bronze Age in Western Europe is little in advance of that of the Neolithic '. Much of the information repeated from the standard textbooks is inconsequential much in the same way as the ' history ' parodied in ' 1066 and All That '. J.G.D.C.

THE ANNUAL OF THE AMERICAN SCHOOLS OF ORIENTAL RESEARCH. Vol. XI, for 1929–30. *Edited for the Trustees by* HENRY J. CADBURY. *Yale University Press*, 1931. *pp.* 169 *with many illustrations. Price not stated.*

The American Schools in question are those in Jerusalem and in Baghdad, and the present volume deals appropriately with archaeological matter both Palestinian and Babylonian. The latter is represented by a very learned article of 58 pages, on ' The Verb in the Kirkuk Tablets ', by Samuel N. Kramer. The Palestinian matter consists of a well illustrated preliminary report on the first two campaigns of Yale University and the American Schools at Jerash. There is an article on ' A New Syriac Fragment ' dealing with incidents in the second Crusade (1148–49), by W. R. Taylor of the University of Toronto; and an account of excavations at Jerash, by Professor Clarence S. Fisher.

For the general reader the most interesting communications are those relating to Jerash and the translation of the Syriac Fragment. As to Jerash, which is 20 miles east of Jordan and 23 north of Amman, it is well known that the excavations here are due to the initiative of Professor Bacon of Yale. They were begun in 1928 under the direction of Mr J. W. Crowfoot, and the present volume carries the account of the work to October 1931. There is a full description, with plan and photographs, of the Artemis temple, ' easily the most imposing as well as the most beautiful of the visible monuments of Jerash '. The singularly interesting churches at Jerash have already been described, with their remarkable mosaics, in a special publication of the British School of Archaeology in Jerusalem written by Mr Crowfoot, and issued in 1931. C. F. CLOSE.

THE QUARTERLY OF THE DEPARTMENT OF ANTIQUITIES IN PALESTINE. *Published for the Government of Palestine by the Oxford University Press, London*, 1932. Vol. I, no. 4. Vol. II, no. 1. *Each number 5s.*

This admirably produced Quarterly contains much material which is indispensable to the student of Palestinian archaeology. In the first of the above issues is an account of some mosaic pavements at 'Ein el Fawwār, covering the floors of a ruined chapel and its adjuncts, close to the outflow of an intermittent spring, used to supplement the water

supply of Jerusalem. There is an illustrated description of a portrait of Vitellius in rock crystal from Caesarea ; and an account of an inscribed Greek epitaph discovered at Gaza, the stone having been used for a modern tomb. A list is given of the excavations in 1931 at ten sites, including Beth-Shan, 'Ain Shems, Samaria, Tell el Ajjūl, Megiddo and the prehistoric caves of the Wādī el Maghāra. The valuable concise bibliography of excavations in Palestine is continued ; this section deals principally with Jerusalem, includes many hundreds of entries, and is accompanied by a useful index-map of the Holy City and the neighbourhood.

The system of transliteration of Palestinian place-names presents some unfamiliar forms : thus, 'Ain Shems appears as 'Ein Shams, and Tell el Ajjūl as Tall el 'Ujūl.

Volume II begins with an excellent number which contains articles on Egypto-Arabian, Phoenician and other coins of the 4th century B.C. ; 3rd century portrait busts ; pre-Hellenistic Greek pottery in Palestine; two inscriptions of Baybars; the Tyropoeon Valley.

Mr J. H. Iliffe, in the course of his article on pre-Hellenistic pottery, remarks, ' The object of the present note—based on the Greek sherds in the Museum and an examination of several mounds—is to draw attention to the chronological range of the examples known, and the considerable number of good vases of 6th and 5th century date represented '. The last contribution, on street levels in the Tyropoeon Valley, gives an account of some minor discoveries that were made during 1931, while constructing a new sewer. We badly want a revised archaeological map of Jerusalem to enable these and other discoveries to be properly studied. C. F. Close.

THE KNIGHTS HOSPITALLERS IN THE HOLY LAND. *By* Col. E. J. King. C.M.G. *Methuen*, 1931. *pp.* xv, 336, 23 *illus. and* 13 *maps and plans.* 25*s.*

This is a work of piety happily begun. The author is Librarian of the British Order of St. John of Jerusalem. Conscious of its medieval heritage he has undertaken the task of writing a complete history of the original Order in the Holy Land, Rhodes and Malta, the first that has been attempted in English. The present volume deals with ' the heroic period ', the 12th and 13th centuries in Palestine and Syria. For its internal history it has good authority : the exhaustive chartulary and critical monographs of a learned French historian of the Order, the late Joseph Delaville Leroulx. From this source Col. King has selected a number of illustrative documents for quotation in full. For the background, the general history of the Latin kingdom and of the Templars, he has drawn conscientiously upon standard works on the Crusades. He has also compiled a useful summary of the other Military Orders and their successors. To the seals of the Order he devotes another appendix, a preliminary to the valuable study which he has since published.* But apart from the Masters' seals and a rare form of reliquary which may have belonged to the conventual church in Jerusalem, his material is disappointing. The architectural illustrations are particularly meagre in spite of the fact that the Order left its mark upon the country by its hospices, churches and castles.

This lack of material is not altogether Col. King's fault. Very few Crusading monuments have escaped subsequent quarrying activities, and their vestiges are only now being studied at all thoroughly. To take the Hospital of Jerusalem, for example, the great pilgrim hospice of the 12th century which was maintained in much the same

* *The Seals of the Order of St. John of Jerusalem. Methuen*, 1932, 18*s.*

spirit as the vast establishment of the Russian Palestine Society, as Stephen Graham described it in pre-war days ; this was spared by Saladin out of respect for the Hospitallers but it has not survived the building activities of later times. Only by assiduous study of every vestige which came to light during the rebuilding of Jerusalem at the end of the 19th century, was the German architect Conrad Schick able to recover the plan. It was evidently a massive Romanesque building of long vaulted aisles such as the ones which still survive at the bottom of David Street where the Jerusalem vegetable market is held, very near the place it occupied in the time of the Crusades. Within the area of the Hospital the crypt of the church still exists under what is once more the Orthodox Greek parish church. Some clue to its appearance is supplied by the surviving north door of a Benedictine church close by, now incorporated in the Lutheran Erlöserkirche. This belonged to one of the two Benedictine hospices, one for men, the other for women, which represented the parents from which the Hospital sprang. Col. King might have illustrated this beautiful doorway and should have cited de Vogüé's account of the whole area as he found it in the 'fifties (*Eglises de Terre Sainte*, 1860). Comparison might also have been made with the fine fortress church at Qariet al-'Enab or Abû Ghôsh on the Jaffa-Jerusalem road, which may be identified with the Commandery of Emmaus. Even less has survived of the convent in Acre which became the headquarters of the Order soon after Jerusalem fell. Down to the 18th century the Masters' palace and the conventual church both stood, the latter up to its triforium, so conspicuous a landmark that it gave its name to the port, St. Jean d'Acre. But French and British guns completed its ruin, energetically seconded by the zeal of the local pashas for up-to-date fortifications. The sole remnant consists of two aisles of the church, now buried under the Palestine central prison. With reference to Acre, the author should at least have referred to the posthumous work of Camille Enlart, *Les Monuments des Croisés dans le Royaume de Jérusalem*, Paris, 1928.

Of the castles which belonged to the Order only two, both in Syria, are at all well-preserved. Those held by the Order in the hill country of Palestine during the 12th century —between them the two great Orders eventually held all but three of the inland castles— were razed by Saladin when Richard threatened Jerusalem in 1191. Two or three of them would perhaps repay excavation with the object of completing their plan ; work which may be undertaken some day by the digging staff of the Palestine Archaeological Museum now engaged at Pilgrim's Castle, the 13th century stronghold of the Templars at Athlit. (This castle was commenced by Gautier d'Avesnes, not by Andrew as stated on p. 190). But in the Syrian country of Tripoli where the Order concentrated its resources after Palestine had been lost there are two of the finest examples of medieval fortification now extant, *viz.*, Krak of the Knights (*Hisn al-Akrâd*) and Markab (*Marghat*). Unlike contemporary examples in Europe they are almost unobstructed by secondary work. Both fell to Baybars with distressing ease but without vital damage, since he wished to preserve them for his own use. Col. King reproduces the plans made by Édouard Rey some fifty years ago, still the only ones available, although the Syrian Service des Antiquités is now actively engaged on a complete clearance and survey of Krak. Excellent photographs of both castles appeared in Max van Berchem's and Edmond Fatio's *Voyage en Syrie* (*Memoires de l'Institut français de l'Archéologie Orientale du Caire*, 1914).

But antiquities apart, this is a thorough book, the only detailed treatment in English ; and it is good news that it is to be followed by another volume on the much less familiar history of the Order in Rhodes.

C. N. Johns.

BULLETIN D'ÉTUDES ORIENTALES. Institut français de Damas, année 1931. Tome I. *Paris : Leroux. pp.* 222. 100 *francs.*

The Bulletin contains seven articles which cover a wide sphere: philological, archaeological, topographical, geographical and purely literary subjects being represented. It is the first volume of a periodical which will appear annually.

In the first article, M. L. Massignon traces the history of Jewish banking from its infancy in 9th century Baghdad till its culmination in the main streets of London and New York today. A Jewish financial monopoly arose in the capital of the Caliphate purely and simply because Islamic law forbade Moslems to indulge in financial commerce and because such power in the hands of Christians would hardly be desirable in Moslem lands, with an ever present Byzantine empire on the frontier. As time went on the system was developed ; large payments were effected by the modern method of credit letters and a separate Jewish banking class arose. In the 12th century Egypt and Spain replaced Baghdad as the main centres, but there were numerous branches and the Jews seem to have gradually come to live in special quarters of the various cities. In the 13th and 14th centuries their power leads to persecutions and they seek refuge in Christian cities, where they establish Jewish quarters which have retained the control of finance to the present day. It is thus to a great extent due to chance that the Jewish control of finance was first brought about.

Two new monuments from Syria,—the church of St. Elias at Ezra and the great church at Seqra, both of the 6th century—are published by M. J. Lassus. Both churches were apparently roofed with dome and vaults ; both are of the same plan, namely cruciform. It is in this that their chief importance lies, for it is the basilica and the centralized buildings that have hitherto been regarded as typical of Syria in early Christian times. In the light of this new evidence, however, M. Lassus is able to show that there were quite a large number of buildings of cruciform plan in Syria in the 5th and 6th centuries and he thereby adds another link to the chain which binds developed Byzantine and Moslem architecture to Syria. Every building of the early period is important, for it is only by the accumulation of evidence that just decisions can be reached, and there has of late years been more dispute as to the origin of dome, vault and cruciform plan than there has over any other subject in archaeology or art history. There is every reason to believe, with M. Lassus, that the evolution of the cruciform plan was both slow and complicated and that its conception took place in pagan times ; it may well have been arrived at in different ways in different regions. The article is illustrated by 6 plates and 14 figures in the text.

An Arabic translation of Bernardin de Saint Pierre's ' Paul et Virginie ' is discussed by M. E. Saussey. Passages from either version placed side by side serve to show, not only that many of the French phrases are unrenderable in Arabic, but also that the translator, Manfaluti, had a scheme of his own which hardly coincided with that of the original, but which was far better suited to his Arabic public. Just as Fitzgerald's *Omar* is a masterpiece, though hardly Persian, so is Manfaluti's adaptation a fine work, though it can hardly be called a translation.

The well-known student of Palmyra, M. Cantineau, is concerned with the place of the word-accent in Hebrew and in Biblical Aramaean. His article shows that a detailed analysis of this nature may bring forth fruits which concern chronology as well as those which are of a purely philological nature.

The distribution of population in Damascus is dealt with by M. R. Thoumin, who shows how different quarters are occupied by different sects and how they have remained

distinct from one another for many centuries. It should be of great interest to those who know Damascus.

M. J. Gaulmier describes the popular pilgrimages to Hama, which are, he shows, of a purely Moslem character and do not seem to carry on any pagan tradition, as is so often the case with regard to the reverence of sanctuaries.

A life of Šibli Šumayyil, metaphysician and moralist, is by Jean Lecerf. It is an important addition to the biography of a little known but important Arabic writer.

The Bulletin includes a summary of the activities of the members of the Institut français de Damas. It is well printed and produced, with good illustrations.

D. Talbot Rice.

HESPERIA : Journal of the American School of Classical Studies at Athens. Volume 1, 1932. *Harvard University Press. pp.* 217, *with plates and plans.* 3 *dollars.*

The American School at Athens has not hitherto published a journal of its own and most of the work done in Greece by the officials and students of the school has had to seek a place in the American Journal of Archaeology, which covers a wide range of archaeology and is limited in space.

This first volume contains four papers, of which two stand out as of first-rate importance. Prof. Rhys Carpenter, until recently Director of the School, here publishes the surprising results of his researches on the sculptures of the Parthenon. For he has discovered—if indeed discovery is the right term for finding lying about what nobody had noticed—a large part of one of the missing figures of the west pediment. This figure is that of a seated woman, of more than life size, which can without hesitation be identified with the figure shown in the drawings of the pediment made by Jacques Carrey in the 17th century and known as ' figure U '. A further comparison is made by Prof. Carpenter with the surviving miniature figure from Eleusis which belongs to a group copied more or less directly from the west pediment in Roman times. Here again the comparison is wholly convincing. Finally, Prof. Carpenter shows that the technique of the figure (and enough of its original surfaces survive for a sound technical study) corresponds with the technique of the Parthenon pedimental sculptures as a whole.

The figure so identified has been lying on the surface of the Acropolis for the last forty years and many scores of learned archaeologists have passed it, looked at it and passed on, assuming that it was too battered for consideration. Fortunately, methods of research in sculpture now make it advisable to pause even before the most uninviting fragment. And the paper here published shows how a major contribution can be made to the sculpture of a world-famous monument by the aid of careful observation and sound method.

Almost equally important is the paper by Mr Oscar Broneer on a sanctuary of Aphrodite on the north slope of the Acropolis. The author has found an inscription, not hitherto noticed, carved into the rock, recording the time at which the feast of Eros was held. The letters are those of the 5th century and the shrine which stood near has evidently some close connexion with the mysteries of the Arrhephoroi, the two maidens who served Athena annually on the Acropolis. It may indeed be that here was the shrine of ' Aphrodite in the Gardens ' to which Pausanias refers in connexion with the Arrhephoroi.

Of the other papers that on the recent excavations and clearance of the Pnyx is of the greatest value, in that it settles finally the disputed structure and plan of the building and gives us four accurate surveys of the whole area.

It will be difficult for every number of HESPERIA to keep up this high standard of discovery, and the first has clearly started with the advantage of being able to select from an accumulation of good material. But the journal, as a scientific publication, is all that could be hoped for and readers can be certain of finding good material in it if every number is so well produced and so well served by the students of the School.

STANLEY CASSON.

THE BIOLOGY OF CIVILISATION. *By* C. C. WALKER. *Toronto : Macmillan Company of Canada*, 1930. *pp.* 323. 12*s* 6*d*.

The author of this book does not appear to have read the works of Herbert Spencer. He states in his introduction, as if proposing a novelty, that ' the manner in which the study of man will be attempted in these pages is that of a zoologist who has an interesting specimen under his glass '. But on inspection it rather seems as if the author had inverted his telescope and taken a long view of history, seeing it as a series of small connected scenes from which all detail is removed by distance. And this is a very different thing. Indeed there seems little by which this book can be distinguished from a simple ' potted history of the world ', except for the fact that the influence of individuals upon the currents of history is minimized and avoided. For it is a descriptive, not an analytic, work and it shows no trace of any original research whatever. The author makes no attempt to explain the collapse of the various civilizations of antiquity that he describes so fully, and gives no new suggestions for the emergence of new empires and new dominant powers. In his last chapter he considers ' War from a biological point of view '. But all that his consideration amounts to is that war is due to a passionate anxiety for ' security ' : countries are ' afraid of being afraid ' and so provoke wars which will banish their fears for ever. That is not biology but psychology. Indeed the whole book is a not uninteresting sketch of all history with a few morals attached. There is little or no biology about it.

STANLEY CASSON.

ANTIQUES : their restoration and preservation. *By* A. LUCAS. *Edward Arnold*, 1932. *pp.* 240. 8*s* 6*d*.

The second edition (the first was published in 1924) of this handy book on the cleaning, restoration and preservation of antiques should be in the possession of everyone who has occasion to deal with such objects. The author has had the advantage of much practical experience and he has been able therefore to explain the various methods employed concisely and in simple terms.

The introduction should be read carefully and the warning as to the necessity of having a certain knowledge of chemistry and of its practical application duly noted. The treatment of objects of nearly every kind of material which the worker in the field or the curator in the museum is likely to handle is discussed. In the section devoted to the treatment of metals, 23 pages are given to copper and bronze, which are dealt with very fully. For corroded bronzes it is to be noted that the author does not favour the electric method of Messrs. Fink and Eldridge, but prefers, and we think rightly, the simple electro-chemical treatment by zinc in alkaline solution or the purely chemical process of soaking in a Rochelle salt or sodium sesquicarbonate solution. Perhaps a little more could have been said about iron as this metal gives greater trouble to museum curators in northern countries than any other. Rosenberg's method, which is in general use in Scandinavian countries, might have been mentioned, but after all the cleaning and

removal of blisters followed by the use of zinc and caustic soda solution is the simpler method and one which can be thoroughly recommended. Care must be exercised, however, in dealing with iron inlaid with another metal.

To pass from metals to pictures we are glad to see that the suggestions made by a Committee of the Royal Academy regarding the cleaning of old pictures have been quoted. The warning contained therein should be thoroughly taken to heart, and this applies also to rock-paintings or rock-sculptures of an early period, and the tempera, fresco, or oil paintings of a later date. In the few pages given to pictures generally, much useful information, hitherto not readily accessible, has been brought together and presented in a readable and skilful manner.

In the section dealing with the preservation of wood we note that no mention is made about the treatment of objects recovered in a sodden and rotten condition from ancient sites.

Much helpful information is given as to the treatment of stone, pottery, ivory, textiles, horn, feathers, etc. The footnotes throughout the book are most useful, and the bibliography and the numerous references to original articles will be equally so to those who desire to go more fully into the details of the technique employed. Some simple chemical and physical tests are given. One of the features of the book is its simplicity, but we do implore those who have had little experience in dealing with any valuable object to read carefully the introductory pages on this point.

A. J. H. Edwards.

FROM THE COLLECTIONS OF THE NY CARLSBERG GLYPTOTHEK.
Copenhagen : Levin and Munksgaard, 1931. *pp.* 196, *illustrated. Price not stated.*

The bulk of this book is taken up with a series of iconographical studies by Frederik Poulsen. The remaining articles are various and deal with the painting of Courbet, two fine heads from Amarna, Neobabylonian seals and a group of white-ground lecythi.

Dr Poulsen covers an enormous ground. He discusses at length the interesting statue of Anacreon in his museum, and with it the statue of Xanthippus which stood near the original at Athens. He sees a possible survival of the Xanthippus in a statue now in the Borghese gardens, which bears the stamp of the middle 5th century, and is disfigured only by a head of Trajan wrongly attached. The arrangement of the chlaina and the body of the figure closely resemble that of the Anacreon, but it differs in attitude. Undoubtedly this identification is an important one, and Poulsen's comparison with the Oenomaos at Olympia is apt. We can now increase our knowledge of this very obscure period of Greek sculpture by two copies of great value.

A close study of the portraits of Generals at Athens illuminates a topic often discussed.

The remainder of his article discusses better known and less definite iconographical questions, such as the portraits of Socrates and Plato, of Thucydides, Herodotus and of the Tragedians. A full account of the seated Socrates at Copenhagen is welcome, though it seems strange that it should recently have been so heavily restored in stone. The restoration of damaged statues in stone is a questionable procedure, however well done.

Of the two Amarna heads of Princesses one, in black basalt, is a masterpiece before which the Greek portraits here discussed fade into obscurity. At no period of art was the balance between naturalism and formalism so perfectly achieved as in Egypt at this

time. Critics must face the fact that Greeks never really produced work of this quality in portraiture. The finest work of Demetrius or Polyeuktos looks routine work in comparison with these Egyptian masterpieces. STANLEY CASSON.

LINDØ: En boplads fra Danmarks yngre Stenalder. *By* J. WINTHER. *Rudkjøbing: Andr. Brandt*, 1926 *and* 1928. *Two vols. pp.* 59, 55.

Lindø is an islet off the west coast of the large Danish island of Langeland, to which it is now joined by a causeway. Here Herr Winther has for many years been excavating a dwelling-site belonging to the later phases of the Danish passage-grave culture, and the results of his work have been published with exemplary thoroughness and a rare wealth of illustration.

The dwellings consisted of a complex of irregular hollows and rough cobbled hearths, one however being a carefully made circular structure of clay. Associated with these were numerous post-holes, arranged so irregularly that it is practically impossible to visualize the lay-out of the huts. At the north end of site 4 however (described in detail and illustrated with a large folding coloured plan in the first volume) there appears to have been a roughly rectangular building, 8 m. by 4.5 m., enclosing two hearths but with one wall definitely bent to avoid a third hearth outside. Abundant remains of burnt daub with the imprint of wattling were found.

The cultural remains which were found give a very complete picture of industries in bone, flint, and pottery. The last two furnish ample indication of the phases of the Danish Neolithic to which the settlement belongs. The square-sided chipped flint axes with thick butts show it to be relatively late and contemporary with the elaborate passage-graves. The pottery confirms this, for while one or two sherds look early, the *floruit* of the settlement is clearly indicated by the occurrence of sherds of the well-known biconical hanging-vases (a particularly fine one is illustrated in vol. II, fig. 41) which are typical of Eckholm's phases III–IV and contemporary with the thick-butted axes.

The Lindø site is of importance in view of the scarcity of habitation-sites of this period in Denmark, and to English students particular interest attaches to the Danish Neolithic cultures, for cultural contacts between Britain and the Baltic seem to have existed throughout our Neolithic and into our Early Bronze Age. Prof. Gordon Childe has recently shown in detail how our Peterborough ware derives from very early Neolithic wares in Denmark, and has also republished the important sherds of actual Danish passage-grave pottery found on the Durham coast—an import which he dates as pre-Beaker here, as in Denmark. Mr Grahame Clark has made out a convincing case for a Baltic origin for our curved flint sickles, while connexions with the later phases of the passage-grave culture are evidenced by the fragment of a biconical hanging-vase, which should be contemporary with Lindø, found in a Beaker settlement at Brantham, Suffolk. Casual finds of square-butted flint axes and daggers of Scandinavian type have furthermore been recorded from several sites in east Britain. Evidence such as this all shows how long was the persistence of the connexions between the two areas which started in Mesolithic times. STUART PIGGOTT.

INVENTAIRE ARCHÉOLOGIQUE DE LA SEINE-INFÉRIEURE, PÉRIODE GALLO-ROMAINE. *By* L. DEGLATIGNY. *Evreux: 4 rue de la Banque, imprimerie Hérissey*, 1931. *pp.* 241. *Price not stated.*

There are few departments in France in which so lively an interest in archaeological work has been shown as in Seine-Inférieure. Local antiquaries have, indeed, often

expressed their enthusiasm in an acrimony of discussion usually associated with a bygone age. Perhaps if they had fought less they might have effected more ; for it must be confessed that, with the exception of De Vesly's work to the south and southeast of Rouen, our knowledge of the Roman period in this Department stands very much where Cochet left it more than fifty years ago.

Cochet's books, however, have been out of print for a long time ; so we may give a warm welcome to M. Deglatigny's *Inventaire* which embodies the information contained in Cochet and summarizes the later work. But it is a pity that the author did not allow the book to appear with plans or even a map. It is always difficult and sometimes impossible to find the exact sites on the ordinary État-Major maps, and readers might in any event have been spared such a labour. What seems to be a defence by implication—that the data will be included presently in the International Map of the Roman Empire—is not valid, for this map (perhaps unfortunately) does not concern itself with small finds of tiles and pottery.

When we do put the finds on a map, the results are interesting and rather unexpected. The areas of maximum habitation seem to be the plateau of Boos to the southeast of Rouen and the environs of Dieppe, but the valleys of Eaulne and Durdent, and even the infra-cretaceous lands of the Bray (a district very similar both in appearance and geological history to the Weald of Kent) show up well on the map. On the other hand the Vexin to the east of Rouen and the Pays de Caux to the north of Lillebonne are almost blank. It has indeed been suggested that intensive cultivation in later ages has obliterated the Roman remains, but this hardly seems adequate to explain such complete blanks. Moreover the distribution of *-acum* place-names and Merovingian cemeteries follows the lines of the Roman distribution. Perhaps the difficulty of obtaining water by any means other than by capturing the rainwater in ponds and the fact that the plateau loams, though excellent cereal land, need careful drainage, were sufficient to frighten early cultivators off these areas. The plateau de Caux, indeed, seems from the place-name map published by Sion to have been settled mainly by the Norsemen, and it is remarkable how, on the whole, barbarian place-names and Gallo-Roman sites tend to occupy mutually exclusive areas on the map.

It is difficult to draw any certain conclusions from a detailed study of the distribution-map, as the very great majority of the finds consist merely of tiles and pottery. But the fashionable theory of the moment in France, which holds that a continuity both in function and substantial appearance existed between Roman villa and modern village, receives little confirmation from this Department. When the sites are plotted on the maps of Cassini, the villa-system (whatever it was) seems about as independent of parish organization as it is in Britain.

The villas on the whole resemble British types ; there are several corridor-houses very like Hambledon, and Maulevrier shows a basilican house used as outbuildings of a corridor-villa. Ste. Marguerite-sur-Mer, near Dieppe, gives us a very interesting example of an Italian court-yard plan ; in Britain we should call it ' a town-house strayed into the country '. The villas seem to date mostly from Neronian or early Flavian times—a little earlier than is usual in Britain. Of their subsequent history little can be said ; none of them has produced anything like a long enough coin list, and excavators are still helpless with anything but coins. It is altogether premature, for instance, to argue a complete dislocation of country-life after the 3rd century invasions—in this area at least. No certain trace of post-Roman habitation seems to come from a villa-site, though more than one was utilized after abandonment as a barbarian burial-place.

Coin finds, however, suggest one or two interesting points of history. The unusual abundance of Commodus hoards in the district (6 out of 15 for the whole of Gaul, and there are probably at least two more), makes it possible that the district was closely affected by Albinus' campaigns ; and De Vesly's discovery of London mint-marks on coins in one of his excavations suggests that the old Normandy-Britain crossing may have regained importance in the Later Empire. Literature (Panegyrics and Ammianus) has something to say on this ; and such a revival would explain the road-making at Bitterne in the 3rd century and perhaps also the rise of the New Forest pottery industry. Finally the absence of any coins later than Honorius from this department (and its neighbours) will have to be considered when judgment is passed upon Mr Collingwood's view of the evacuation of Britain.

That theories can be spun and deductions made is evidence of the book's value—whether the theories are right or not. Gallo-Roman archaeology has been too long in the habit of viewing Roman remains as 'interesting objects scattered up and down the country' and has forgotten that it 'is dealing with a great empire'. Roman Gaul has not yet found its Horsley and its Haverfield, but when it does, a deep debt of gratitude will be owed to the compilers of *Inventaires* such as this. C. E. STEVENS.

THE OLD AND NEW TESTAMENTS IN MUSLIM RELIGIOUS ART. *By* Professor Sir THOMAS W. ARNOLD. The Schweich Lectures of the British Academy, 1928. *Oxford University Press*, 1932. *pp.* 47, *with* 19 *plates.* 6*s.*

In these short lectures, printed posthumously, Sir Thomas Arnold, who had made the study of the origin and development of Islamic painting his own, has collected material which has never been published before. He shows how, despite the ban on painting which orthodox tradition attributes to Muhammad himself, art—and that a Muhammadan art—managed to survive the assaults of fanaticism within and barbarism without the Islamic community. His thesis is that the ecclesiastical art of the Syriac-speaking churches ultimately goes back to Byzantine originals and that this art, together with the artistic tradition of Mesopotamia and Persia, influenced Muhammadan painting. Notwithstanding the comparatively meagre remains of both Christian and Muslim pictorial art the author is able to point to the definite influence of the older religion on Islam. It is not surprising that some of the examples are not of a high order of merit ; the richer churches and libraries naturally suffered most from invaders and therefore bequeathed least to posterity.

The Qurān has borrowed heavily from the Old Testament, and consequently the Garden of Eden, the Flood, and the stories of the patriarchs, are common to the hagiology of Christianity and Islam. Such stories were favourite themes of painters, and we find that the Muslim painter has followed earlier models as closely as could be expected. Unquestionably the best examples artistically are the illustrations taken from comparatively late Persian MSS, and here, in my judgment, Christian influence has worn very thin. The picture of Joseph meeting with an old shepherd has a beauty and charm of its own.

In the third and last chapter the New Testament is dealt with. Here the material is comparatively slight ; the Annunciation, Nativity, and Baptism are depicted each in its characteristic Muslim form. The progress of Muslim painting is followed as far as the 19th century, and the author explains why it is that the figure of Jesus differs entirely from Christian models despite the remarkable underlying unity of the likeness of Christ throughout the Christian world in every age.

Many will read with surprise of the figure of Christ holding the orb in his hand and the copy of the painting of the Virgin in the Borghese chapel which were once on the walls of the palaces of Agra.

Apart from the value of this study of a little known field of art a reader who has no special knowledge of Islam will learn much of the religious beliefs of Muslims from these pictures, which are most skilfully and carefully reproduced. Islamic scholars will be reminded of their loss in the death of the gifted and much loved author.

ALFRED GUILLAUME.

VERGIL'S TROY : essays on the Second Book of the Aeneid. *By* W. F. JACKSON KNIGHT, M.A. *Oxford : Basil Blackwell*, 1932. *pp.* IX, 158. *4s 6d.*

This sympathetic study summarizes and completes the investigations made by Mr Knight into the second book of the Aeneid. The writer subjects the familiar story to a penetrating analysis, first from the standpoints of poetic and epic technique, and secondly in its literary and mythological aspects. His comprehensive chapter on Vergil's use of existing traditions is a much-needed protest against the far too frequent stigmatizing of the poet as a mere copyist ; while his treatment of the Vergilian hexameter, though marred by the excessive use of ugly terms such as ' homodyne ' and ' heterodyne ', is proof of an exceptional sensitiveness to the peculiar magic of sound as interpreted by Vergil—one misses, however, a reference to the late Dr Bridges, whose own experiments in *Ibant Obscuri* both anticipate and support Mr Knight's conclusions. There is a most interesting chapter on the story of the siege of Troy and its meaning ; the author holds that the wooden horse had a magical, not a military significance ; its purpose was ' to damage the Trojan defence by supernatural means ', in short to destroy the power existing in the sacred wall of Troy by a ritual leap over it, a theory which seems to clarify many difficulties. The book is well documented, and forms a valuable addition to the existing volumes in Mr Blackwell's series. R. G. AUSTIN.

THE HISTORY OF SCARBOROUGH. *Editor :* ARTHUR ROWNTREE. *Contributors :* R. E. M. WHEELER, R. G. COLLINGWOOD, A. HAMILTON THOMPSON, JEAN ROWNTREE, A. J. GRANT, D. MONTGOMERIE, M. BLACK, *and the* EDITOR. *J. M. Dent and Sons Ltd.*, 1931. *pp.* XX, 456 *with* 130 *illustrations and two end-paper maps.* 21*s.*

This book is an excellent example of co-operation in the production of a local history. The team collected by the Editor is notably well equipped for the work in hand. The watering-places of the English coast are not usually remarkable for length of history, but in Scarborough its modern activity as the chief resort on the northeast coast is only the latest phase in a long career.

First a landing place for settlers from the Continent in the early Iron Age, then the site of a Roman signal station, and so, after the comparative obscurity of the Dark Ages, a borough and port dominated by a castle of the first rank, Scarborough has successfully avoided the decay which has come over many other coast towns since the Middle Ages, and for this it has to thank its admirable natural situation.

After a short introduction by the Editor, Mr Black discusses the configuration of the Scarborough area, showing that the site owes its importance to the occurrence of the Castle Hill and good natural harbour at the south end of a coastal strip of some fertility caused by a thick deposit of boulder clay left behind by the North Sea ice-sheet. Dr Wheeler then takes up the story and considers the district still further in the relation of

human occupation to geography in the Stone, Bronze, and Iron Ages, and necessarily pays most attention to the remarkable discovery in 1923 of an intrusive settlement of early Iron Age folk from the Continent on Castle Hill. The chief trace of these people is a series of rubbish pits containing pottery with Hallstatt characteristics associated with tools and weapons of bronze belonging to the latest phase of the Bronze Age. Dr Wheeler points out that although this association raises geographical problems, its chronology is not difficult if it is remembered that the early Iron Age pottery of much of Central Europe is the same as the late Bronze Age pottery of the outlying lands. He also contributes a very useful appendix on the linear earthworks of the Scarborough region. All who are familiar with the field archaeology of east and northeast Yorkshire will know these remarkable works which cross the Wolds in all directions, and are also found on the moors to the north. When considered in relation to the ancient topography of the areas their purpose is clear. They are not strictly defensive, but were intended to delimit areas of human occupation, restrain the wanderings of cattle, and complicate cattle-raiding.

The Roman episode at Scarborough falls into the authoritative hands of Mr R. G. Collingwood, who describes the Roman signal station found and excavated on Castle Hill on the same site as that of the early Iron Age settlement. He gives a short discussion of the problem of the coast defence of the Roman province, and points out that the signal stations of the northeast Yorkshire coast were the work of Theodosius when he restored order after the disaster of A.D. 367, and that the last date at which we may be certain they were still in commission is 394. There is a careful description of the tower with its surrounding defences as revealed by the excavations of Mr Simpson.

Between the destruction of the signal station and the opening of the full Middle Ages, Scarborough has little known history, but it is at this time that the place gets its name, not from its natural situation, it would seem, but from Thorgils Skardi, ' the hare lip ', who harried England with his brother Kormak in the middle of the 10th century. The Kormakssaga tells us that ' they were the first men to set up the stronghold called Scarborough '. This event may be dated with some certainty at 966–7. Traces of a small chapel and graveyard of pre-Norman date were found within the ruined tower of the Roman signal station, and over the whole a later Norman chapel was constructed. Dr Hamilton Thompson believes that this first chapel was founded early in the 11th century as a beacon chapel. A small town had grown up under Castle Hill by 1066, but it was so completely destroyed by Harald Hardrada on his way to his defeat and death at Stamford Bridge that there is no mention of the place in the Domesday Survey.

Medieval Scarborough receives full measure from the hands of Dr Hamilton Thompson and Miss Jean Rowntree. The history of the Cistercian cell at Scarborough, its opposition to the coming of the Franciscans, and the vicissitudes suffered as an offshoot of an alien house during the Hundred Years' War, and its final passage into the hands of the Prior of Bridlington in the 15th century are recounted by Dr Thompson, while Miss Rowntree expounds the rise of the borough and the numerous disturbances caused by faction fights between the richer and the poorer burgesses which were a feature of the life of the town in the 14th century.

Mr Montgomerie deals with the architectural and political history of the Castle, which contains such diverse episodes as the expulsion of Piers Gaveston, the ill-fated friend of Edward II, the defence of the place for Charles I in the Civil Wars, and a final preparation for active service in 1745 before the threat of the Young Pretender. Professor Grant contributes a chapter on the town in the 16th and 17th centuries, paying

special attention to its fortunes in the Pilgrimage of Grace, and the stirring days of the Civil War sieges, the last of the seven to which the place has been exposed.

The remaining six chapters are the work of the Editor, who traces the history of the port in detail and also the rise of the ' Spaw ' which began to draw an increasing number of visitors in the 18th century, though its very existence was threatened by a landslide which temporarily destroyed the spring in 1737.

The development of the modern town in the 19th century, its government, and the rise and organization of the modern seaside resort occupy two chapters, and the work closes with an account of the men and women of Scarborough and their characteristics as revealed by their wills over a period of three hundred years. An amusing feature occurs in the will of one Steven Wodde who, in Queen Elizabeth's reign, bequeaths ' to my mother in law Mrs Cooke a crowne of gold '.

The book is illustrated by water-colours, prints, and drawings, and well-executed plans clarify the chapters dealing with architectural topics. An interesting feature, all too rare in local government annals, is the sense of responsibility for antiquities under its charge which has been shown by the Scarborough Corporation in giving every facility for excavating the interesting sites on Castle Hill, and providing money for the purpose. Scarborough is to be congratulated on its good fortune. C. W. PHILLIPS.

LA VOIE ANTIQUE DES CARAVANES ENTRE PALMYRE ET HIT au IIe Siècle ap. J.-C. D'après une Inscription retrouvée au S.-E. de Palmyre (Mars 1930). (Extrait de la Revue SYRIA, 1931).

This extract records an inserted column, dedicated to one of the merchant-princes of Palmyra, in the days of her prime, which was discovered in 1930 at a point 22 kilometres to the southeast of Palmyra.

Its interest is two-fold. It shows how the Palmyrenes of that day worked under the aegis of Rome in their attempts to maintain commercial relations with Parthia, and even to tap the wealth of the Indies by way of the Persian Gulf; it also proves the actual line of the trade-route which connected that caravan-city with Mesopotamian Parthia and with the Persian Gulf. We can now, therefore, add one more to our map of the ancient routes which traversed northern Arabia and the Syrian desert.

Air reconnaissances showed that the route led in an almost direct line from Palmyra to Hit, with a branch track leading off to the Parthian station of Dura, by way of the Wadi el Miya, and the Wadi Suab. It is of interest to note that this is practically the line followed by Miss Gertrude Bell on her return journey from Baghdad to Palmyra in 1914, and we know of a string of fortresses on this line, *viz.*:—Qasr Tayyar in the said Wadi el Miya, where doubtless the track bifurcated to Dura, a Qasr in the upper Wadi Suab, Qasr Helgum, Muhaiwar in the Wadi Hauran, Amij and Khubbaz and thence Hit. These Qusur are roughly forty miles apart.

The inscription, in Greek and in good condition, was found by the wells of Umm el 'Amad, a steined well of some depth, in the neighbourhood of the ruined sites Bukharra and Bazurije (Bell). The date shows that the route was in use in the middle of the 2nd century A.D., the highest peak of Palmyrene commerce, and it probably fell into disuse at the time of the Parthian rising in A.D. 162. D. CARRUTHERS.

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